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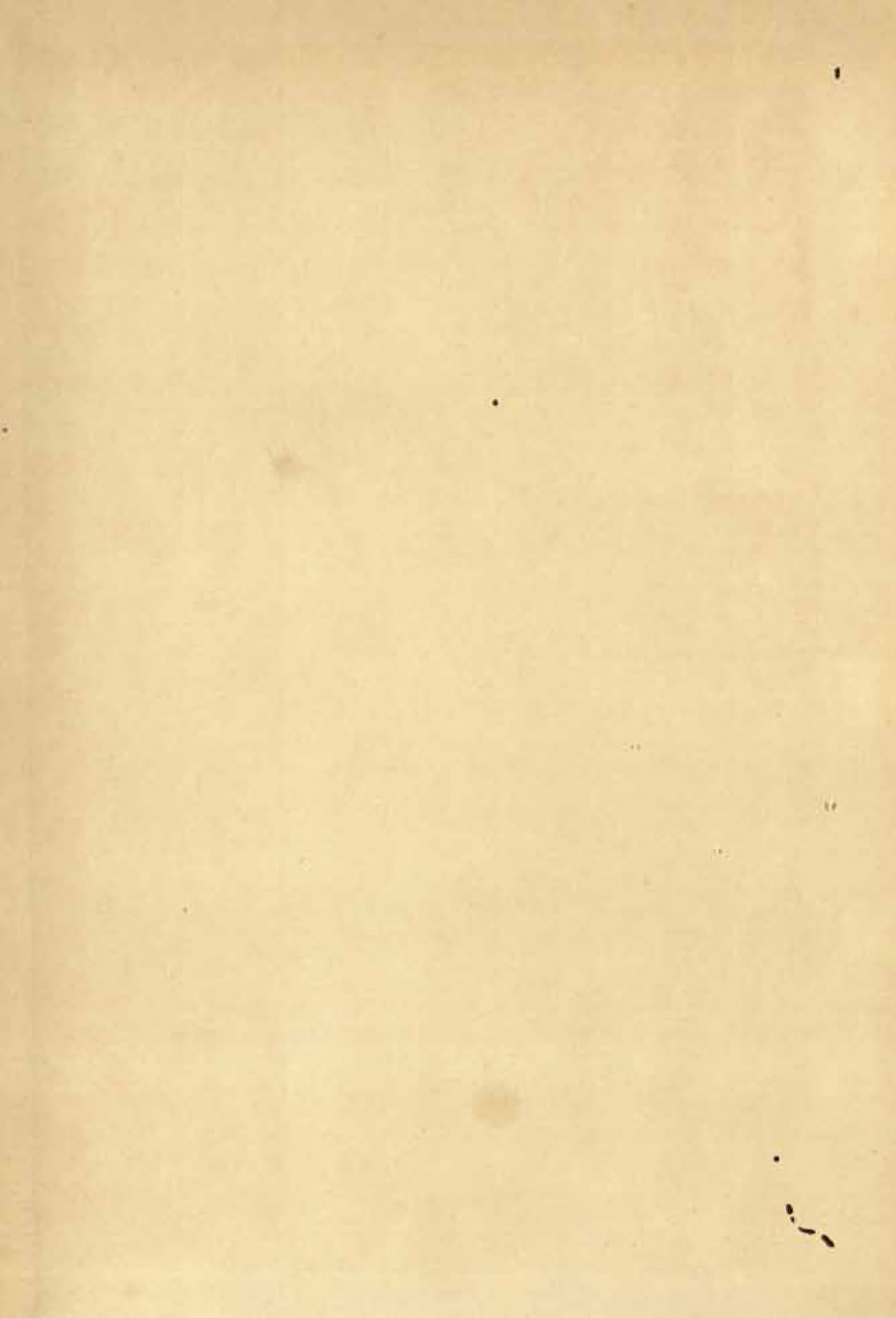
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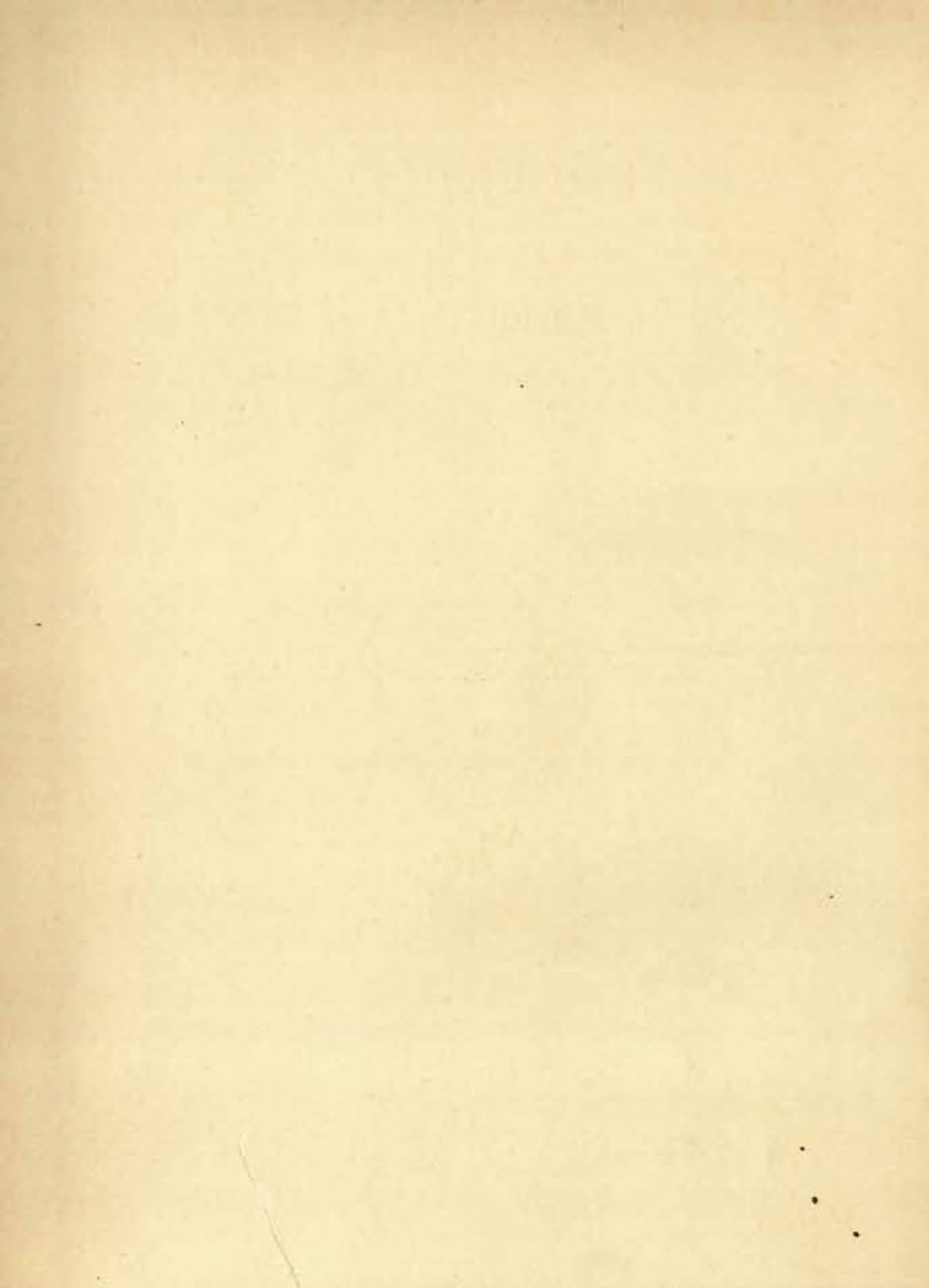






PROCEEDINGS
OF THE
Society of Antiquaries of Scotland





PROCEEDINGS

OF THE

Society of Antiquaries of Scotland

SESSION
MCMXXX.-MCMXXXI.

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VOL. LXV.

SIXTH SERIES.—VOL. V.

Edinburgh

PRINTED FOR THE SOCIETY BY NEILL AND COMPANY LTD.

MCMXXXI.

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TABLE OF CONTENTS

	PAGE
Anniversary Meeting,	1
Final Report on the Operations at Skara Brae. By Professor V. GORDON CHILDE, B.Litt., F.S.A.Scot.,	27
Report on Selected Animal Bones. By Professor D. M. S. WATSON, Professor of Zoology in University College, London,	74
Report on Human Remains. By Professor A. ROBINSON, M.D., F.R.C.S.,	75
Notes on (1) Certain Prehistoric Relics from Orkney, and (2) Skara Brae: Its Culture and its Period. By J. GRAHAM CALLANDER, F.S.A.Scot., Director of the National Museum of Antiquities,	78
Edzell Castle. By W. DOUGLAS SIMPSON, M.A., D.Litt., F.S.A.Scot.,	115
The Excavation of the Sculptor's Cave, Covesea, Morayshire. By Miss SYLVIA BENTON, M.A., F.S.A.Scot.,	177
The Bannatyne or Bute Mazer and its Carved Bone Cover. By J. H. STEVENSON, M.B.E., K.C., F.S.A.Scot., Marchmont Herald. With Appendix: (1) Note on the Provenance of the Mazer. By Mr LIONEL A. CRICHTON; (2) Note on the Boss of the Mazer. By Mr WILLIAM BROOK, F.S.A.Scot.; (3) Zoological Note on the Whale Bone Cover of the Mazer. By Professor JAMES RITCHIE, D.Sc., F.S.A.Scot.; (4) Botanical Note on the Plant represented in the Carving on the Mazer Cover. By Professor W. WRIGHT SMITH, M.A., King's Botanist for Scotland; (5) GEORGE ROBERTSON'S (erroneous) Account of the Shields on the Bowl,	217
A Bronze Age Cemetery near Cowdenbeath, Fife. By A. D. LACAILLE, F.S.A.Scot.,	261
Further Excavations of Cairns at Poltalloch, Argyll. By J. HEWAT CRAW, Secretary,	269
The Chambered Long Cairn at Kindrochat, near Comrie, Perthshire. By Professor V. GORDON CHILDE, B.Litt., F.S.A.Scot.,	281
An Underground Passage at Auchencross Castle, Dumfriesshire. By H. J. YOUNGER, F.S.A.Scot.,	294
Excavation of an Earth-house at Foshigarry, and a Fort, Dun Thomaidh, in North Uist. By the late ENSKINE BEVERIDGE, LL.D., F.S.A.Scot. With Notes on the Structures and the Relics found in them. By J. GRAHAM CALLANDER, F.S.A.Scot., Director of the National Museum of Antiquities of Scotland,	299
An Underground Building at Midhouse, Orkney: Two Urns found at Lintlaw, Berwickshire; and the Excavation of a Cairn at Drumelzier, Peeblesshire. By J. HEWAT CRAW, Secretary,	357

TABLE OF CONTENTS.

Note on Early Cross-slabs from the Faeroe Islands. By P. M. C. KERMODE, F.S.A.Scot.,	PAGE 373
The Reconstruction of Braemar and Corgarff Castles, 1746. By JOHN MALCOLM BULLOCH, LL.D., F.S.A.Scot.,	379
Some Further Notes on the Traprain Law Treasure. By A. O. CURLE, C.V.O., F.S.A.Scot.,	386
The Romano Terraces: Their Origin and Purpose. Being the Chalmers-Jervise Prize Essay for 1930. By W. W. T. HANNAH, The Whim, Lamancha,	388
An Old Scottish Violin Tutor. By HENRY GEORGE FARMER, M.A., Ph.D., F.S.A.Scot.,	398
Prehistoric Man at Tweed Bridge, Selkirk. By W. D. MASON, Selkirk,	414
Short Cists in Angus and Nairnshire. By ARTHUR J. H. EDWARDS, F.S.A.Scot., Assistant Keeper of the National Museum of Antiquities of Scotland. With a Report on the Human Remains contained in them. By Professor ALEXANDER LOW, M.A., M.D., F.S.A.Scot.,	418
Note on the Tombstone of Robert Innes, 19th of that Ilk, at Elgin Cathedral. By THOMAS INNES of Learney and Kinnairdy, F.S.A.Scot., Carrick Pursuivant,	427
Names of Potters on Samian Ware found in Scotland. By Sir GEORGE MACDONALD, K.C.B., F.B.A., LL.D., D.Litt., F.S.A.Scot.,	432
INDEX,	449

LIST OF ILLUSTRATIONS

	PAGE		PAGE
Cast of a Sculptured Stone once in Nonikiln		Skara Brae: Flagstone club,	63
Kirkyard, Roskeen, Ross-shire,	11	— — — Flake knife with ground edge,	63
Swastika Brooch from Denholm Hill, Rox-		— — — Slab of flagstone with serrated	
burghshire,	16	edge,	64
Bronze Armlet found on the Culbin Sands,	17	— — — Pot sherds of class A,	65
Enamelled Gold Locket from Corsewall		— — — Sherd of class B2 found in midden	
Castle, Wigtownshire,	18	south of Hut 7,	66
Cross from Kilchoman Kirkyard, Islay,	19	— — — Sherds of classes B and C,	67
Skara Brae: West side of porch of Hut 8,		— — — Small pot from black midden in pit	
showing blocked-up entrance and external		IV.,	69
wall of hut,	25	— — — Sections of rims and bases,	70
— — — The backs of walls <i>c</i> and <i>b</i> before		— — — Slate object,	71
the removal of midden covering the cell in		— — — Sections through Village. Plate I.,	
<i>b</i> , viewed from the market place,	28	<i>facing</i>	76
— — — Back of cell in wall <i>b</i> ; passage F		— — — Sections through Village. Plate II.,	
in background,	30	<i>facing</i>	76
— — — End of Passage C, with cist grave		— — — Plan of Village at,	76
behind,	33	Flint Arrow-heads from Orkney,	80
— — — Hut 9: former entrance and south-		Leaf-shaped Flint Arrow-heads, Orkney	
ern "bed",	35	type,	81
— — — Hut 9: northern "bed" with		Flint Arrow-heads, calcined, from Unstan,	82
midden section in background,	36	Flint Fabricator, calcined, from Unstan,	82
— — — Hut 9: southern "bed", cell, and		Flint and Chert Scrapers from Orkney,	83
dresser,	36	Flint Knife from Sourin Valley, Rousay,	84
— — — Hut 10 with later box in foreground		Flint Implements from Orkney,	85
and wall Q' on right,	37	Flint Implement from Upper Brough,	
— — — Outer face of original wall of Hut 4,	40	Harra,	86
— — — Doorway of Hut 4',	41	Flint Implement from Linnabreck, Orkney,	87
— — — Hut 4', interior,	42	Sections of Rims of Neolithic Urns from	
— — — Outer wall of Hut 4 with passage		Taiverso Tuick, Orkney,	88
and structures beyond it,	43	Neolithic Urns from Unstan,	89
— — — Lintels of drain E,	46	Fragments of Ornamented Neolithic Urns	
— — — Corner of hearth built on virgin		from Taiverso Tuick, Orkney,	90
soil at the bottom of test-pit XII.,	51	Stone Axes from Skara Brae, Orkney,	92
— — — Intrusive cist grave south of Hut		Broken Stone Hammers from Orkney,	93
7 before removal of cap-stones,	58	Half of Stone Hammer found at Taiverso	
— — — Skeleton in cist grave,	59	Tuick,	94
— — — Antler mount for Celt,	60	Hammer of Cetacean Bone from Orkney,	96
— — — Grooved hammer-stone,	60	Carved Stone Ball from St Thomas's Kirk,	
— — — Beaked tool with hafting groove,	61	Orkney,	96
— — — Beaked tool of hematite,	62	Ornamented Stone Object from Orkney,	97
— — — Pear-shaped implement of flagstone	62	Pointed Oval Stone Objects from Orkney,	98

	PAGE		PAGE
Burnished Hematite Objects from Skara Brae, Upper Brough, Orkney, Harris, Wigtownshire, and Traprain Law, East Lothian,	100	Edzell Castle: Newel Stair in Summer-House,	166
Steatite Urn from Orkney,	102	— — — Well-head in Garden,	167
Steatite Urn from Clestralu, Stronsay, Orkney,	102	Edzell: Bridge near old Churchyard (view of North front),	168
Map to illustrate the strategic position of Edzell Castle,	116	Edzell Castle, Heraldic Pediment,	169
Edzell Castle: Map of precincts (based on O.S., with additions),	120	— — — Carved Caps,	170
— — — View of <i>motte</i> from east, with old churchyard behind. In front are the remains of a precinct gate,	121	Dovecot at Mains of Edzell,	172
— — — Ground Plan,	123	Sculptor's Cave, Covesea, Morayshire,	178
— — — Plan of Main Floor,	124	— — — Plan,	179
— — — General view from west. (From a photo circa 1890),	125	— — — Section of Floor,	179
— — — The Tower-House and later buildings, seen from a window of the Summer-House: Pleasaunce wall in foreground,	126	— — — Hearth,	181
— — — Newel Stair in Tower-House,	127	— — — Gold and Bronze Ring-money from,	182
— — — Main Door to Tower-House,	128	— — — Bronze Bracelets from,	183
— — — Fireplace in Tower-House,	129	— — — Netting Needle from,	184
— — — Plan of Pleasaunce,	135	— — — Bone Scoops and Awls from,	185
— — — Measured drawing of Garden Wall,	136	— — — Bone and other Objects from,	187
— — — Garden Wall and Summer-House,	137	— — — Bronze Age Cooking-Pot from,	189
— — — Coat of Arms over north-east Door to Garden, inner side,	139	— — — Sections of Rims and Base of Bronze Age Pottery from,	190
Saturn, at Edzell and by Meister I. B.,	142	— — — Perforated Stone from,	191
Jupiter, at Edzell and by Meister I. B.,	142	— — — Bronze Objects of the Roman Period from,	192, 193
Mars, at Edzell and by Meister I. B.,	143	— — — Bronze Penannular Ring from,	193
Sol, at Edzell and by Meister I. B.,	143	— — — Bronze Pins from,	195
Venus, at Edzell and by Meister I. B.,	144	— — — Bronze Toilet Instruments from,	196
Mercury, at Edzell and by Meister I. B.,	144	— — — Bone Pins from,	197
Luna, at Edzell and by Meister I. B.,	145	— — — Beads, etc., of Glass, Amber, and Jet from,	199
Edzell Castle <i>Grammatica</i> ,	147	— — — Samian Ware from,	202
— — — <i>Rhetorica</i> ,	147	— — — Sections of Rims of Native Pottery from,	203
— — — <i>Dialectica</i> ,	147	— — — Coins from,	210, 211
— — — <i>Arithmetica</i> ,	147	The Bannatyne Mazer, outside,	218
— — — <i>Musica</i> ,	148	— — — inside,	219
— — — <i>Geometria</i> ,	148	— — — Reduced fac-simile of the Legend on the Band, divided for convenience into sections,	224
— — — <i>Caritas</i> ,	149	The Rochester Mazer,	226
— — — <i>Spes</i> ,	149	The Armourers' Mazer,	228
— — — <i>Iustitia</i> ,	149	The Bannatyne Mazer: direct view of the Boss,	230
— — — <i>Fides</i> ,	149	Roger de Quilacy, Constable of Scotland, 1226-64—Counterseal,	231
— — — <i>Prudentia</i> ,	150	The Bannatyne Mazer: upper side of Cover,	234
— — — <i>Fortitudo</i> ,	150	— — — under side of Cover,	235
— — — <i>Temperantia</i> ,	151	— — — Plate I.—The Boss as it appears now (full size), <i>facing</i>	244
Statue of Theodoric at Innsbrück,	154	— — — Plate II.—Heraldry of the Boss in its original metals and colours, <i>facing</i>	244
The Seven Cardinal Virtues, by Hans Burgkmair,	155	Beakers from a Cairn at Kalknash, Skye,	257
<i>Grammatica</i> , from Necker's <i>Stammbuch</i> ,	159	Fragment of Food-vessel from Edderton,	258
<i>Caritas</i> , from Necker's <i>Stammbuch</i> ,	159	Cinerary Urns from Cowdenbeath,	261-5, 267
Edzell Castle: Summer-House from N.E.,	165	Map of Cowdenbeath Bronze Age Cemetery Site,	268

LIST OF ILLUSTRATIONS.

ix

	PAGE		PAGE
North Cairn, Nether Largie,	270	Foshigarry: Harpoon of Bone from,	334
— Under surface of Cist-cover, with		— Bone Awls from,	335
Axe-heads and Cup-marks,	271	— Bone Pins and Needles from,	336
— Rubbing of Cist-cover,	272	— Handles of Deer-horn from,	337
— Axe-heads on north End-slab,	273	— Picks and other Objects of Deer-horn	
— Slab with incised Circles, <i>in situ</i> ,	274	from,	338
Cup-markings on rock surface, Nether		— Miscellaneous Bone Implements from,	340
Largie,	275	— Pottery from,	344-5
Carnassarie Cairn,	276	— Sections of Rims of Pottery Vessels	
— Food-vessel from,	277	from,	347
Bell Cairn, Ballymeanoch,	278, 279	Earth-house at Machair Leathann, North	
Probable Quarry for Standing Stones, Tor-		Uist,	355
bhlaire Hill, Kilmichael Glassary,	280	Plan of Earth-houses at Foshigarry, North	
Long Cairn at Kindrochat, Plan and		Uist. Plate II., <i>facing</i>	359
Sections of,	281	Earth-house at Midhouse, Orkney,	358
— View along Trench I.,	282	Cinerary Urns from Lintlaw, Berwick-	
— The Northern Kerb,	283	shire,	360, 362
— South Wall exposed in Trench		Drumelzier Cairn. Map of locality,	363
2 (EF),	284	— View of,	364
— Disturbed southern Kerb near		— Cist in,	364
western end of the Cairn,	285	— Plan of,	365
— Kerb curving round at east		— Beaker from,	366
end of Cairn,	286	— Urn fragments from,	367-8
— Plan and Elevations of Cist I.,	288	— Jet Armlet from,	369
— Plan and Section of Cist III.,	289	— Ring-marked Slab at,	371
— Cist III., Views of,	290-2	Cross-slabs from Skuo and Kirkjubo,	374-5
Plan and Sections of Underground Struc-		Cross-slab, locality unknown, in Copen-	
ture at Auchencass Castle, Dumfries-		hagen,	375
shire,	294	Recumbent Grave Slab and two Head-stones	
Foshigarry: Implements of Cetacean Bone		from Greenland,	376
from,	307-9	Cross-slab from Svinö Church, Norderey,	378
— Clay Pot from,	310	The Harden Spurs,	400
— Small-toothed Comb of Bone from,	312	The Harden Horn,	400
— Bone Die from,	313	Stone Mould from Loophill, Evertown,	
Plan of Dun Thomaidh, Vailay Sound,		Dumfriesshire,	411
North Uist. Plate I.,	319	Bone Pin with Amber Mounts,	412
Foshigarry. Whorls of Stone, Clay, and		View of Tweed Bridge, Selkirk, from the	
Cetacean Bone from,	325	north-east, showing the Tardenoisian Site	
— Objects of Bronze, Clay, and Cetacean		on The Rink Farm,	415
Bone from,	326	Tardenoisian Flint Implements from The	
— Bone and Iron Objects from,	327	Rink, Selkirk,	416
— Hammers of Cetacean Bone from,	327	Beaker from Fletcherfield, Angus,	418
— Weaving Combs of Cetacean Bone		Fragments of Food-vessel and Jet Beads	
from,	328	from Knockenny, Angus,	420
— Whorls and Pierced Disc of Cetacean		Norma lateralis of Skull from Short Cist at	
Bone from,	329	Carnach, Nairn,	423
— Objects of Cetacean and other Bone,		Norma verticalis of Skull from Short Cist	
encircled by grooves worn by friction,		at Carnach, Nairn,	424
from,	330	Norma occipitalis of Skull from Short Cist	
— Pointed Tools of Bone from,	331	at Carnach, Nairn,	425
— Perforated Implements of Deer-horn		Tombstone of Robert Innes in Elgin	
from,	332	Cathedral,	427
— Socketed Bone Spear-heads (f) from,	333		



LAWS
AND
LIST OF FELLOWS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND

L A W S
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND.

INSTITUTED NOVEMBER 1780 AND INCORPORATED BY
ROYAL CHARTER 6TH MAY 1783.

(Revised and adopted November 30, 1901.)

1. The purpose of the Society shall be the promotion of ARCHÆOLOGY, especially as connected with the investigation of the ANTIQUITIES AND HISTORY OF SCOTLAND.

2. The Society shall consist of Fellows, Honorary Fellows, Corresponding Members, and Lady Associates.

3. Candidates for admission as Fellows must sign the Form of Application prescribed by the Council, and must be proposed by a Fellow and seconded by two members of the Council. Admission shall be by ballot.

4. The Secretaries shall cause the names of the Candidates and of their Proposers to be inserted in the billet calling the Meeting at which they are to be balloted for. The Ballot may be taken for all the Candidates named in the billet at once; but if three or more black balls appear, the Chairman of the Meeting shall cause the Candidates to be balloted for singly. Any Candidate receiving less than two-thirds of the votes given shall not be admitted.

5. Honorary Fellows shall consist of persons eminent in Archæology, who must be recommended by the Council, and balloted for in the same way as Fellows; and they shall not be liable for any fees of admission or annual subscriptions. The number of Honorary Fellows shall not exceed twenty-five.

6. Corresponding Members must be recommended by the Council and balloted for in the same way as Fellows, and they shall not be liable for any fees of admission or annual subscriptions.

7. Ladies who have done valuable work in the field of Archæology may be admitted as Lady Associates. The number of Lady Associates shall not exceed twenty-five. They shall be proposed by the Council and balloted for in the same way as Fellows, and shall not be liable for any fees of admission or annual subscriptions.

8. Before the name of any person is added to the List of Fellows, such person shall pay to the funds of the Society Two Guineas as an entrance fee and One Guinea for the current year's subscription, or may compound for the entrance fee and all annual subscriptions by the payment of Twenty Guineas at the time of admission. Fellows may compound for future annual subscriptions by a single payment of Fifteen Guineas after having paid five annual subscriptions; or of Ten Guineas after having paid ten annual subscriptions.

9. The subscription of One Guinea shall become due on the 30th November in each year for the year then commencing; and if any Fellow who has not compounded shall fail to pay the subscription for three successive years, due application having been made for payment, the Treasurer shall report the same to the Council, by whose authority the name of the defaulter may be erased from the list of Fellows.

10. Every Fellow not being in arrears of the annual subscription shall be entitled to receive the printed Proceedings of the Society from the date of election.

11. None but Fellows shall vote or hold any office in the Society.

12. Subject to the Laws and to the control of the Society in General Meetings, the affairs of the Society shall be managed by a Council elected and appointed as hereinafter set forth. Five Members of the Council shall be a quorum.

13. The Office-Bearers of the Society shall consist of a President, three Vice-Presidents, two Secretaries for general purposes, two Secretaries for Foreign Correspondence, a Treasurer, two Curators of the Museum, a Curator of Coins, and a Librarian. The President shall be elected for a period of five years, and the Vice-Presidents for a period of three years.

One of the Vice-Presidents shall retire annually by rotation and shall not again be eligible for the same office until after the lapse of one year. All the other Office-Bearers shall be elected for one year and shall be eligible for re-election.

14. In accordance with the agreement subsisting between the Society and the Government, the Board of Manufactures (now the Board of Trustees) shall be represented on the Council by two of its Members (being Fellows of the Society) elected annually by the Society. The Treasury shall be represented on the Council by the King's and Lord Treasurer's Remembrancer (being a Fellow of the Society).

15. The Council shall consist of the Office-Bearers, the three representative Members above specified, and nine Fellows, elected by the Society.

16. Three of the nine elected Members of Council shall retire annually by rotation, and shall not again be eligible till after the lapse of one year. Vacancies among the elected Members of Council and Office-Bearers occurring by completion of term of office, by retirement on rotation, by resignation, by death or otherwise, shall be filled by election at the Annual General Meeting. The election shall be by Ballot, upon a list issued by the Council for that purpose to the Fellows at least fourteen days before the Meeting.

17. The Council may appoint committees or individuals to take charge of particular departments of the Society's business.

18. The Annual General Meeting of the Society shall take place on St Andrew's Day, the 30th of November, or on the following day if the 30th be a Sunday.

19. The Council shall have power to call Extraordinary General Meetings when they see cause.

20. The Ordinary Meetings of the Society shall be held on the second Monday of each month, from December to May inclusive.

21. Every proposal for altering the Laws must be made through the Council ; and the Secretaries, on instructions from the Council, shall cause intimation thereof to be made to all the Fellows at least one month before the General Meeting at which it is to be determined on.

FORMS OF BEQUEST.

Form of Special Bequest.

I, A. B., do hereby leave and bequeath to the Society of Antiquaries of Scotland incorporated by Royal Charter, my collection of and I direct that the same shall be delivered to the said Society on the receipt of the Secretary or Treasurer thereof.

General Form of Bequest.

I, A. B., do hereby leave and bequeath to the Society of Antiquaries of Scotland incorporated by Royal Charter, the sum of £ sterling [*to be used for the general purposes of the Society*] [or, *to be used for the special purpose or object, of*], and I direct that the said sum may be paid to the said Society on the receipt of the Treasurer for the time being.

LIST OF THE FELLOWS

OF THE

SOCIETY OF ANTIQUARIES OF SCOTLAND,

NOVEMBER 30, 1931.

PATRON :
HIS MAJESTY THE KING.

- | | |
|--|--|
| <p>1931. AGNEW, Rev. HUGH M., M.A., Minister of St David's North Church of Scotland, 2 Foster Road, Downfield, Dundee.</p> <p>1917. AGNEW, STAIR CARNEGIE, M.A., LL.B., Barrister-at-Law, 60 Elm Park Gardens, London, S.W. 10.</p> <p>1892. AILSA, The Most Hon. The Marquess of, Culzean Castle, Maybole.</p> <p>1905. ALEXANDER, R. S., Grant Lodge, 18 Lomond Road, Trinity, Edinburgh.</p> <p>1929. ALEXANDER, W. M., Journalist, Hillview Road, Cults, Aberdeenshire.</p> <p>1909. ALISON, JAMES PEARSON, F.R.I.B.A., 45 Bridge Street, Hawick.</p> <p>1930. ALLAN, Mrs H. M., 10 Ainslie Place, Edinburgh.</p> <p>1928. ALLAN, Mrs MARGARET HILLMAN, Linfield House, Gilmerton, Edinburgh.</p> <p>1926. ALLAN, WILLIAM, M.B.E., 46 Croft Road, Cambuslang.</p> <p>1918. ALLAN, WILLIAM KINLOCH, Erngath, 2 Wester Coates Avenue, Edinburgh.</p> <p>1929. ANCKORN, WILFRED LOHRAINE, Three-Corner Mead, Dinton Green, Kent.</p> <p>1925. ANDERSON, ALEXANDER HUTTON, M.A., Donaldson's Hospital, Edinburgh.</p> <p>1922.*ANDERSON, ARTHUR R., 6 Bowmont Terrace, Glasgow, W. 2.</p> <p>1922. ANDERSON, ERIC S., 5 Eldon Street, Edinburgh.</p> | <p>1897. ANDERSON, Major JOHN HAMILTON, 2nd East Lancashire Regiment, c/o Messrs Cox & Co., 16 Charing Cross, London, S.W. 1.</p> <p>1902.*ANDERSON, Major ROBERT DOUGLAS, c/o The Manager, Lloyd's Bank, Paignton, Devon.</p> <p>1920. ANDERSON, Rev. ROBERT S. G., B.D., The Manse, Castle Kennedy, Wigtownshire.</p> <p>1923. ANDREWS, MICHAEL CORBET, M.R.I.A., F.R.G.S., F.R.S.G.S., F.R.S.A.I., Ormeau, Derryvolgie Avenue, Belfast.</p> <p>1913. ANGUS, Miss MARY, Immeriach, 354 Blackness Road, Dundee.</p> <p>1921. ANGUS, WILLIAM, Curator of the Historical Department, Record Office, H.M. General Register House, Edinburgh.</p> <p>1926. ANGUS-BUTTERWORTH, L. M., F.R.G.S., F.Z.S., Lea Hurst, Duchain-Massey, Cheshire.</p> <p>1910. ANNAN, J. CRAIG, Glenbank, Lenzie.</p> <p>1900. ANSTRUTHER, Sir RALPH W., Bt., Balcaskie, Pittenweem.</p> <p>1897. ANSTRUTHER-GRAY, WILLIAM, Lieut.-Col., Royal Horse Guards, Kilmany, Fife.</p> <p>1918.*ARGYLL, His Grace The Duke of, Inveraray Castle.</p> <p>1914. ARMITAGE, Captain HARRY, late 15th Hussars, The Graze, North Berwick.</p> <p>1910. ARMSTRONG, A. LESLIE, M.C., F.S.I., F.S.A., 14 Swaledale Road, Millhouses, Sheffield.</p> <p>1921. ARNOTT, JAMES ALEXANDER, F.R.I.B.A., 13 Young Street, Edinburgh.</p> |
|--|--|

An asterisk (*) denotes Life Members who have compounded for their Annual Contributions.

1910. ASHER, JOHN, 13 Pitcullen Crescent, Perth.
1924. ASHWORTH, Mrs. Hillbank, Grange Loan, Edinburgh.
1931. ASKEW, GILBERT H., Fairfield, Riding Mill-on-Tyne, Northumberland.
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1920. WISHART, DAVID, Pittarrow, Abernethy, Perthshire.
1929. WOLFENDEN, Ex-Froyst WILLIAM J.P., Duke of Gordon Hotel, Kingussie, Inverness-shire.
1922. WOOD, J. R., 51 Clouston Street, Kelvingate N., Glasgow.
1907. *WOOD, WILLIAM JAMES, J.P., 5 Bogton Avenue, Cathcart, Glasgow.
1930. WRIGHT, ALEXANDER, L.R.I.B.A., Highfield, Baldernock Road, Milngavie.
1927. WRIGHT, Rev. WILLIAM, M.A., B.D., Minister of the Parish of Wardlawhill, 21 Clincarthill, Rutherglen.
1925. WYNESS, J. FENTON, A.R.I.B.A., A.I.Archts.Scot., 25 Belmont Street, Aberdeen.
1926. YOUNG, EDWARD DRUMMOND, 27 Castle Terrace, Edinburgh.
1913. YOUNG, THOMAS S., W.S., Auchterarder.
1924. YOUNGER, HARRY J., 21 Douglas Crescent, Edinburgh.
1929. YOUNGER, Mrs J. P., Arncliffe, Cambus, Clackmannanshire.
1912. *YULE, THOMAS, W.S., 16 East Claremont Street, Edinburgh, — *Vice-President*.

SUBSCRIBING LIBRARIES, ETC.

- | | |
|--|--|
| <p>American Philosophical Society.
 Ashmolean Museum, Oxford.
 Baillie's Institution, Glasgow.
 Birmingham Public Libraries—Reference Library.
 Chicago University Library, Chicago, U.S.A.
 Cleveland Public Library, Ohio, U.S.A.
 *Columbia University.
 Department of British and Mediæval Antiquities,
 British Museum.
 Detroit Public Library, Detroit, U.S.A.
 *Faculty of Procurators' Library, Glasgow.
 Falkirk Natural History and Archaeological Society.
 Free Public Library, Boston, Massachusetts, U.S.A.
 Harvard College, U.S.A.
 Institute of Accountants and Actuaries in Glasgow.
 John Rylands Library, Manchester.
 National Museum of Wales, Cardiff.
 New York Public Library, New York.</p> | <p>Pennsylvania Historical Society, Philadelphia,
 U.S.A.
 Public Library, Aberdeen.
 Public Library, Dundee.
 Public Library of Victoria, Melbourne, Australia.
 Reform Club, Pall Mall, London, S.W. 1.
 State Historical Society of Wisconsin, Madison,
 Wisconsin, U.S.A.
 *Stornoway Public Library, Island of Lewis.
 University College, Dublin.
 University Library, Leeds.
 University of Michigan, Ann Arbor.
 University of Minnesota, U.S.A.
 University of Pennsylvania, Philadelphia, Pa.,
 U.S.A.
 Victoria University of Manchester.
 Yale University Library, New Haven, Connecticut,
 U.S.A.</p> |
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LIST OF THE CORRESPONDING MEMBERS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND.

NOVEMBER 30, 1931.

- | | |
|---|---|
| 1923. BLACK, GEORGE F., Ph.D., New York Public Library, New York City, U.S.A. | 1915. MATHIESON, JOHN, F.R.S.E., 42 East Claremont Street, Edinburgh. |
| 1927. BREMNER, SIMON, Mid Town, Preswick, Caithness. | 1915. MORRISON, MURDO, Lakefield, Bragar, Lewis. |
| 1928. FORTUNE, JOHN ROBERT, Airhouse, Oxton, Berwickshire. | 1924. MUN, WILLIAM T., Brenda, Evie, Orkney. |
| 1913. FRASER, JOHN, 68 Restalrig Road, Leith. | 1911. NICOLSON, JOHN, Nybster, Auchengill, by Wick, Caithness. |
| 1913. LEVY, Mrs N. | 1931. SMITH, SAMUEL, Mumrills, Laurieston, near Falkirk. |
| | 1921. URQUHART, ANDREW, M.A., J.P. (no address). |

LIST OF HONORARY FELLOWS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND,
NOVEMBER 30, 1931.

[According to the Laws, the number is limited to TWENTY-FIVE.]

1897.

Sir W. M. FLINDERS PETRIE, D.C.L., LL.D., F.B.A., F.R.S., Edwards Professor of Egyptology in University College, London, W.C. 1.

Dr SOPHUS MÜLLER, Secretary of the Royal Society of Northern Antiquaries, and Director of the National Museum, Copenhagen.

1908.

Sir ARTHUR JOHN EVANS, M.A., D.C.L., Youlbury, near Oxford.

SALOMON REINACH, Director of the National Museum of Antiquities of France, St Germain-en-Laye.

5 Professor H. DRAGENDORFF, Freiburg i. Baden, Johan von Weirhstrasse 4.

1919.

LÉON COUTIL, Correspondant du Ministère de l'Instruction Publique, etc., etc., Les Andelys, Eure, France.

RENÉ CAGNAT, Secrétaire Perpétuel de l'Académie des Inscriptions et Belles Lettres, Professeur au Collège de France, Palais de l'Institut (3 rue Mazarine), Paris.

1923.

M. L'ABBÉ H. BREUIL, D.L.C., Professeur au Collège de France et à l'Institut de Paléontologie Humaine, Paris, 110 rue Demours, Paris.

Professor FRANZ CUMONT, 19 Corso d'Italia, Rome.

10 G. F. HILL, C.B., M.A., LL.D., F.B.A., Litt.D., F.S.A., Director of the British Museum, London, W.C. 1.

FRANK GERALD SIMPSON, M.A., 45 Fern Avenue, Jesmond, Newcastle-upon-Tyne.

Mrs ARTHUR STRONG, C.B.E., Litt.D., LL.D., F.S.A., Life-Fellow of Girton College, Cambridge, and Assistant Director of the British School at Rome, 35 Via Balbo, Rome (22).

A. M. TALLOREN, Professor Universitetet, Helsingfors, Finland.

1926.

MARCELLIN BOULE, Professor in the Muséum National d'Histoire Naturelle, and Director of the Institut de Paléontologie Humaine, 1 rue René Panhard, boulevard Saint-Marcel, Paris 13^e.

15 Professor Dr philos A. W. BRØGGEE, Bestyrer av Universitetets Oldsaksamling, Tallinlökken, Oslo, Norway.

O. M. DALTON, M.A., F.R.A., 12 Sydney Place, Bath.

Professor Dr ERNST FABRICIUS, Geheimer Rat, Goethestrasse 44, Freiburg im Breisgau, Germany.

Sir ARTHUR KEITH, M.D., D.Sc., LL.D., F.R.C.S. (Eng.), F.R.S., Conservator of the Museum and Hunterian Professor, Royal College of Surgeons of England; Past-President of the Royal

Anthropological Institute of Great Britain and Ireland, and of the Anatomical Society.

Dr R. PARIBENI, Director of the Institute of Archaeology of Rome, Museo Nazionale Romano, Rome.

1927.

20 Don HERMILO ALCALDE DEL RIO, Torrelavega, Santander, Spain.

1931.

Mrs M. E. CUNNINGTON, 33 Long Street, Devizes, Wiltshire.

22 Professor Dr ROBERT ZAHN, Director bei den Staatlichen Museen, Honorar-professor an der Universität, Am Lustgarten, Berlin, C.2.

LIST OF THE LADY ASSOCIATES
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND,
NOVEMBER 30, 1931.

[According to the Laws, the number is limited to TWENTY-FIVE.]

1900.

Miss M. A. MURRAY, Edwards Library, University College, London, W.C. 1.
2 Mrs E. S. ARMITAGE, M.A., Parkhurst, Middlesbrough.

SOCIETIES, INSTITUTIONS, &c., EXCHANGING PUBLICATIONS.

- | | |
|---|--|
| <p>Architectural, Archaeological, and Historic Society of Chester and North Wales.
 Berwickshire Naturalists' Club.
 Bristol and Gloucestershire Archaeological Society.
 British Archaeological Association.
 Buchan Field Club.
 Buteshire Natural History Society.
 Cambrian Archaeological Association.
 Cambridge Antiquarian Society.
 Carmarthenshire Antiquarian Society.
 Cumberland and Westmorland Antiquarian and Archaeological Society.
 Derbyshire Archaeological and Natural History Association.
 Dumfriesshire Natural History and Antiquarian Society.
 Edinburgh Architectural Association.
 Edinburgh Geological Society.
 Elgin Literary and Scientific Society.
 Essex Archaeological Society.
 Gaelic Society of Inverness.
 Glasgow Archaeological Society.
 Hampshire Field Club and Archaeological Society.
 Hawick Archaeological Society.
 Historic Society of Lancashire and Cheshire.
 Institute of Archaeology, Liverpool.
 Kent Archaeological Society.
 Orkney Antiquarian Society, Kirkwall.
 Perthshire Society of Natural Science.
 Royal Anthropological Institute.
 Royal Archaeological Institute of Great Britain and Ireland.
 Royal Commission on Ancient and Historical Monuments of Scotland.
 Royal Commission on the Ancient and Historical Monuments and Constructions in Wales and Monmouthshire.
 Royal Historical Society.</p> | <p>Royal Institute of British Architects, London.
 Royal Irish Academy.
 Royal Numismatic Society.
 Royal Society of Antiquaries of Ireland.
 Scottish Ecclesiological Society.
 Shropshire Archaeological Society.
 Society for the Promotion of Roman Studies.
 Society of Antiquaries of London.
 Society of Antiquaries of Newcastle-upon-Tyne.
 Somersetshire Archaeological and Natural History Society.
 Stirling Natural History and Archaeological Society.
 Surrey Archaeological Society.
 Sussex Archaeological Society.
 Third Spalding Club.
 Thoresby Society.
 Viking Society for Northern Research.
 Wiltshire Archaeological Society.
 Yorkshire Archaeological Society.</p> <p>Archaeological Survey of India.
 British School at Rome.
 Colombo Museum, Ceylon.
 Provincial Museum, Toronto, Canada.
 Royal Canadian Institute, Toronto.
 University Museum, Dunedin, New Zealand.</p> |
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FOREIGN SOCIETIES, UNIVERSITIES, MUSEUMS, &c.

- Académie des Inscriptions et Belles Lettres, Paris.
 Académie des Sciences d'Ukraine, Kieff.
 Administration des Monuments, Riga, Lettonie.
 Alterthumsgesellschaft, Königsberg.
 Anthropologische Gesellschaft, Vienna.
 Antiquarische Gesellschaft, Zürich.
 Archaeological Institute of the Imperial University of Kyoto, Japan.

Archäologisches Institut des Deutschen Reiches
Römisch-Germanische Kommission, Frankfurt
am Main.
Associació Catalana d'Antropologia, Etnologia i
Prehistòria, Barcelona Universitat, Spain.
Bosnisch-Herzegovinisches Landes-Museum, Sara-
jevo.
Bureau of Ethnology, Washington.
California University.
Commissione Archeologica Comunale di Roma.
Cornell University Library, Ithaca, New York.
Čsl. státní archaologický ústav (Institut archéolo-
gique de l'Etat tchécoslovaque) Praha, Re-
publika československá.
Ecole d'Anthropologie de Paris.
Faculté des Sciences de Lyon.
Field Museum of Natural History, Chicago.
Foreningen til Norske Fortidsmindesterkers
Bevaring.
Gesellschaft für Nützliche Forschungen, Trier.
Göteborg och Bohusläns Fornminnesföreningen.
Göttingen University.
Historische und Antiquarische Gesellschaft, Base.
Historische Verein für Niedersachsen.
Institut Archéologique Bulgare, Sofia.
Institut de Paléontologie Humaine, Paris.
Junta Para Ampliación de Estudios—Comisión de
Investigaciones Paleontológicas y Prehistóricas,
Madrid.
Junta Superior de Excavaciones y Antigüedades,
Madrid.
Kiel University.
Kongelige Norske Videnskabers Selskab, Tron-
djem.
Leipzig University.
Musée Archéologique Erasie Majewski de la Société
des Sciences de Varsovie, Poland.
Musée Guimet, Paris.
Musée National Suisse à Zürich.
Museum, Bergen, Norway.
Museum of Northern Antiquities, Oslo.
National Bohemian Museum, Prague, Czecho-
Slovakia.
National Museum, Zagreb, Yugoslavia.
Nordiska Museet, Stockholm.
Norsk Folkemuseum, Oslo, Norway.
Notgemeinschaft der Deutschen Wissenschaft,
Berlin.
Oslo University, Norway.

Peabody Museum, Cambridge, Mass., U.S.A.
Prähistorische Kommission der Akademie der
Wissenschaften in Wien.
Reale Accademia Nazionale dei Lincei, Rome.
Rijks-Museum van Oudheden, Leiden.
Römisch-Germanische Central Museum, Mainz, Ger-
many.
Royal Academy of History and Antiquities,
Stockholm.
Royal Society of Northern Antiquaries, Copenhagen.
Servicio de Investigación Prehistórica de la Excm.
Diputación Provincial de Valencia.
Smithsonian Institution, Washington, U.S.A.
Società Romana di Antropologia, Rome.
Société d'Anthropologie de Paris.
Société des Antiquaires de l'Ouest.
Société Archéologique d'Alexandrie.
Société Archéologique de Constantine, Algeria.
Société Archéologique du Midi de la France.
Société Archéologique de Montpellier.
Société Archéologique de Moravie.
Société Archéologique de Namur.
Société des Bollandistes, Brussels.
Société des Sciences de Semur (*Pro Alesia*).
Société Finlandaise d'Archéologie, Helsingfors.
Société d'Histoire et d'Archéologie de Gand.
Société Nationale des Antiquaires de France.
Société Préhistorique Française, Paris.
Société Préhistorique Polonaise.
Société Royale d'Archéologie de Bruxelles.
Städtisches Museum für Völkerkunde, Leipzig.
Stavanger Museum, Stavanger, Norway.
University Library, Tartu, Esthonia.
Uppsala University.
Verein für Nassauische Alterthumskunde, Wies-
baden.
Verein von Alterthumsfreunden im Rheinlande, Bonn.
Wiener Prähistorische Gesellschaft.

PERIODICALS.

L'Anthropologie, Paris.
Bulletin archéologique polonais, Warsaw.

LIBRARIES, BRITISH.

Athenaeum Club Library, London.
Bodleian Library, Oxford.
British Museum Library.
Chetham's Library, Manchester.
Church of Scotland College Library, The Mound,
Edinburgh.

Free Library, Edinburgh.
 Free Library, Liverpool.
 Mitchell Library, Glasgow.
 National Library of Scotland, Edinburgh.
 National Library of Wales, Aberystwyth.
 Ordnance Survey Library, Southampton.
 Public Record Office Library, London.
 Royal Library, Windsor.
 Royal Scottish Museum Library, Edinburgh.
 Scottish National Portrait Gallery Library.
 Scottish Record Office, Historical Department.
 Signet Library, Edinburgh.
 Trinity College Library, Dublin.
 University Library, Aberdeen.
 University Library, Cambridge.
 University Library, Edinburgh.

University Library, Glasgow.
 University Library, St Andrews.
 Victoria and Albert Museum Library, London.

LIBRARIES, FOREIGN.

Bayerische Staats-bibliothek, Munich, Bavaria.
 Bibliothèque d'Art et d'Archéologie, Université de
 Paris.
 National Library, Paris.
 National Library, Vienna.
 Newberry Library, Chicago, U.S.A.
 Preussische Staats-bibliothek, Berlin.
 Public Library, Hamburg.
 Royal Library, Copenhagen.
 Royal Library, Stockholm.
 Sächsische Landes-bibliothek, Dresden.

PROCEEDINGS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND

HUNDRED AND FIFTY-FIRST SESSION, 1930-1931

ANNIVERSARY MEETING, 1st December 1930.

THE DUKE OF ATHOLL, K.T., C.B., M.V.O., D.S.O., LL.D.,
President, in the Chair.

Mr John W. M. Loney and Mr Harry R. G. Inglis were appointed
Scrutineers of the Ballot for Office-Bearers.

The Ballot having been concluded, the Scrutineers found and declared
the List of the Council for the ensuing year to be as follows:—

President.

His Grace THE DUKE OF ATHOLL, K.T., C.B., M.V.O., D.S.O., LL.D.

Vice-Presidents.

Major WILLIAM A. BAIRD.
CHARLES E. WHITELAW, I.A.
THOMAS YULE, W.S.

Councillors.

The Hon. HEW HAMIL-	<i>Representing</i>	W. DOUGLAS SIMPSON, D.Litt.
TON DALRYMPLE.		Prof. THOMAS H. BRYCE, M.D., F.R.S.
JOHN WARRACK.	<i>the Board of</i>	G. P. H. WATSON.
	<i>Trustees.</i>	
JOHN A. INGLIS.	<i>Representing</i>	The Hon. LORD ST VIGEANS.
		Professor V. GORDON CHILDE, B.Litt.
Brig.-Gen. Sir ROBERT	<i>the Treasury.</i>	F. J. GRANT, Lord Lyon King-of-
Bart., C.B., C.V.O., D.S.O.	G. GILMOUR,	Arms.
WILLIAM ANGUS.		STAIR A. GILLON.

Secretaries.

DOUGLAS P. MACLAGAN, W.S. | J. HEWAT CRAW.

For Foreign Correspondence.

The Rev. Professor A. H. SAYCE, M.A., | Professor G. BALDWIN BROWN, F.B.A.,
LL.D., D.D. | LL.D.

Treasurer.

J. BOLAM JOHNSON, C.A.

Curators of the Museum.

JAMES CURLE, LL.D., W.S. | JAMES S. RICHARDSON.

Curator of Coins.

Sir GEORGE MACDONALD, K.C.B., F.B.A., LL.D., D.Litt.

Librarian.

ALEXANDER O. CURLE.

A Ballot having been taken, the following were elected Fellows:—

Mrs H. M. ALLAN, 10 Ainslie Place, Edinburgh.
 WILLIAM BAXTER, Public Works Contractor, 153 High Street, Tranent.
 Rev. JOHN BEVERIDGE, M.B.E., B.D., Broomhouse Road, Corstorphine.
 Rev. JOHN KIRKLAND CAMERON, The Manse, Auchterhouse, near Dundee.
 Major JAMES MILNE DAVIDSON, Lynwood, Ashtead, Surrey.
 JOHN DONALD, 79 Dempster Street, Greenock.
 JOHN J. DUNCAN, 35 Comiston Road, Edinburgh.
 HARRY SCOTT FERGUSON, W.S., 2 Nile Grove, Edinburgh.
 JOHN MAURICE FROST, Aldersyde, Broomhill Road, Aberdeen.
 G. ROBERT GAIR, 30 The Avenue, Huyton, South Lancashire.

ANNIVERSARY MEETING.

3

Sir ALEXANDER GIBB, G.B.E., C.B., Queen Anne's Lodge, Westminster, London, S.W. 1.

WALTER G. GRANT of Trumland, Hillhead, Kirkwall, Orkney.

JOHN GUY, M.A., 14 Dunlop Street, Greenock.

Lieutenant-Colonel EDGAR ERSKINE HUME, M.C., U.S. Army, B.A., M.A., M.D., LL.D., D.P.H., D.T.M., The Magnolias, Frankfort, Kentucky.

PETER KENNEDY, M.A., 20 Northfield Terrace, Edinburgh.

ROBERT KIRK, M.B., Ch.B., B.Sc., Brigend Manse, Rothesay, Isle of Bute.

W. B. LAWSON, 26 Roseburn Street, Edinburgh.

DAVID LEES, The Schoolhouse, New Monkland, by Airdrie.

ARTHUR JAMES MABEY, "Beechbank," 20 Avondale Road, South Croydon, Surrey.

HUGH GEOFFREY MACCOLL, M.A., B.Sc., Laroeh House, Ballachulish, Argyll.

Rev. ALLAN MACDONALD MACKILLOP, B.A., B.D., Clerk of the General Assembly, Queensland, Scots Manse, Albion, Queensland, Australia.

DAVID M'ROBERTS MILLER, 5 Whitehill Gardens, Glasgow, E. 1.

ROBERT WEST NAPIER, F.R.S.A., 26 Bruntsfield Place, Edinburgh.

CHARLES HAGEN OWEN, M.A., Windyridge, Wensley Grove, Harrogate.

JAMES MEIKLEJOHN ROBERTSON, Architect, A.R.I.A.S., 24 Strathearn Road, Edinburgh.

HENRY W. SCARTH of Breckness, Skaill House, Orkney.

R. CUNLIFFE SHAW, F.R.C.S. Eng., L.R.C.P. London, 24 Ribblesdale Place, Preston, Lancashire.

Miss MARGARET E. BARBOUR SIMPSON, M.A., Assistant Inspector of Ancient Monuments for Scotland, 43 Manor Place, Edinburgh.

JOHN SMITH, County Sanitary Inspector for Roxburghshire, Newtown St Boswells.

C. E. STEVENS, B.A., 31 St Aldates, Oxford.

NORMAN STEWART, 17 Athole Gardens, Uddingston, Lanarkshire.

JOHN TAYLOR, Collegehill House, Roslin, Midlothian.

JAMES CORNWALLIS THOMSON, C.A., 2 Atholl Gardens Terrace, Glasgow, W. 2.

WALLACE THORNECROFT, of Dalrulzeon, Strete Raleigh, Whimble, Exeter.

THOMAS H. VALE, A.C.A., Pakington House, Trinity Road, Birchfields, Birmingham.

ARTHUR WILSON, J.P., 6 Saltoun Gardens, Glasgow, W. 2.

The Secretary read the list of Members deceased since the last Annual Meeting:—

Honorary Fellow.

The Right Rev. Bishop G. F. BROWNE, 62 Horton Street, London, W. 8 ^{Elected.} 1921

Lady Associate.

Miss EMMA SWANN, Walton Manor, Oxford. ^{Elected.} 1894

Fellows.

	Elected.
ALEXANDER T. ARTHUR, M.B., C.M., Ingleside, West Cults, by Aberdeen	1901
JAMES BONNAR, Glendura, Cupar, Fife	1923
JAMES CURRIE, Larkfield, Wardie Road, Edinburgh	1886
JAMES DAVIDSON, Summerville, Dumfries	1910
Rev. JAMES DICK, Linburn House, Kirknewton, Midlothian	1901
Colonel WILLIAM FRASER DOBIE, V.D., J.P., Edgemont, Paisley	1926
HENRY T. DONALDSON, The British Linen Bank, Nairn	1895
Sir JOHN R. FINDLAY, of Aberlour, Bart., K.B.E., LL.D., D.L., Hon. R.S.A., F.R.S.E., 3 Rothesay Terrace, Edinburgh	1892
Rev. D. W. B. FLEMING, Culross Park, Culross	1909
HUGH ALEXANDER FORSYTH, J.P., Violet Bank, Wormit, Fife	1917
Sir JAMES GUTHRIE, R.S.A., H.R.A., LL.D., Rowmore Row, Dumbarton- shire	1904
CHARLES E. KEYSER, M.A., F.S.A., J.P., D.L., Aldermaston Court, Reading	1911
The Right Hon. THE EARL OF KINTORE, K.T., G.C.M.G., LL.D., Keith Hall, Inverurie	1900
Sir WILLIAM S. McCORMICK, G.B.E., LL.D., F.R.S., 43 Frognal, London, N.W. 3	1913
COLL REGINALD MACDONALD, M.D., 17 Wellington Square, Ayr	1885
GEORGE ANDERSON MILLER, W.S., Knowehead, Perth	1878
A. G. SYDNEY MITCHELL, Architect, The Pleasance, Gullane	1890
The Right Hon. THE EARL OF MORAY, Hon. R.S.A., Kinfauns Castle, Perth	1895
JAMES MURCHIE, Penrioch, Kingcase, Prestwick	1911
PATRICK MURRAY, W.S., 7 Eton Terrace	1884
BRAMLEY N. RADCLIFFE, 211 Mottram Road, Stalybridge, Cheshire	1928
JOHN ROGERSON, I.A., A.R.I.B.A., 172 Bath Street, Glasgow	1921
Rev. FREDERICK ALEXANDER STEUART, M.A., B.D., The Manse, Inchinnan, Renfrewshire	1925
Rev. GEORGE WILLIAMS, Minister of Norrieston U.F. Church, Thornhill, Stirling	1895

The Meeting resolved to record their sense of the loss the Society had sustained in the death of these members.

The Secretary read the following Report by the Council on the affairs of the Society:—

The Council beg to submit to the Fellows of the Society their Report for the year ending 30th November 1930.

Fellowship.—The total number of Fellows on the roll at 30th November 1929 was 1046
At 30th November 1930 the number was 1061
being an increase of 15

The number of new Fellows added to the roll during the year was 56, while 24 died, 11 resigned, and 6 allowed their membership to lapse.

Among the names of Fellows who have died in the course of the year the Council desires to make special reference to Sir John R. Findlay and Mr Patrick Murray, W.S.

Sir John Ritchie Findlay, Bart., of Aberlour, K.B.E., LL.D., D.L., Hon. R.S.A., F.R.S.E., became a Fellow in 1892. He was elected to the Council in 1898 for three years, and in 1907 became one of the representatives of the Board of Trustees on the Council, a position which he continued to hold till the time of his death. The Minute of the Meeting of the Society on 5th May 1930 contains an appreciation of the invaluable help which he gave on the administrative side during that long period. Here it may be added that he also took a keen interest in the collections, and contributed liberally to the work of excavation.

Mr Patrick Murray, W.S., joined the Society in 1884. He occupied a seat on the Council from 1913 to 1916, and acted as a Vice-President from 1916 to 1919. Although he never took a very prominent part in the Society's work, he was very regular in his attendance at the evening meetings so long as his health permitted. In him the Society has lost a cultured and most genial personality.

Proceedings.—An advance copy of *The Proceedings* lies upon the table. Sixteen papers deal with prehistorical and seven with historical subjects.

The Museum.—The number of objects received into the Museum during the last year continues large, 729 having been received by donation and 159 by purchase. Relics belonging to the Prehistoric Period are, as usual, most numerous. Among the more important of them are a flint axe from Islay, presented by Captain A. C. MacIntyre, Balulve; a finely polished flint knife from the parish of Urr, Stewartry of Kirkcudbright, presented with other relics by Mr James M'Cargo, Kirkpatrick-Durham; a collection of flint and stone implements from Bookan, Orkney, presented by Mr Peter Irvine; a stone adze from Rousay, a stone hammer from Egilsay, and a collection of Neolithic pottery fragments from Taiverso Tuick, Rousay, presented by Mr Walter G. Grant; two jet buttons, two jet beads, and flint implements, found in excavating cairns on the Knock Hills, Roxburghshire, by Mrs F. S. Oliver; and a large cinerary urn with a unique bone pendant, found at Over Migvie, Kirriemuir, presented by Mrs and Mr K. Cowpar.

Among the purchases are a fine Bronze Age jet necklace, found in 1857 at Pitkenney, Angus, and a carved stone ball of oval shape, from the site of a broch at St Thomas's Kirk, Orkney, this being the only specimen of oval form recorded.

Within the limits of the Historic Period, mention should be made of a Covenanters' flag from the parish of Ochiltree, presented by the Rev. John Warriek, Cumnock; while among the more important purchases were a particularly fine Early Iron Age armlet, found on the Culbin Sands, Morayshire; a free-standing cross of West Highland type, from Kilchoman, Islay; a quantity of old carved oak, from King's College Chapel, Aberdeen; an enamelled sixteenth-century gold locket, found near Corsewall Castle; an early eighteenth-century nielloed silver Highland brooch; and a silver dish used by the mother of Sir Walter Scott in feeding him when an infant.

Excavations.—The excavation of two Bronze Age cairns at Poltalloch was undertaken by Sir Ian Malcolm of Poltalloch, K.C.M.G., and the Society. The work was carried out in April last under the supervision of Mr Craw. One of the cairns, at Nether Largie, contained a cist, and although no relics were recovered, several stones of the cist and in the cairn were found to be sculptured. The other cairn, at Carnassarie, covered a cist which contained a food-vessel urn in good preservation. The urn and one of the sculptured stones have been placed on loan in the Museum by Sir Ian Malcolm.

During the summer, the excavation of the Broch of Aikerness, in the parish of Evie, Orkney, was undertaken with the aid of funds supplied by Mr T. B. Macaulay, LL.D., F.S.A.Scot. Mr Craw was in charge of the work. Excavation showed the wall of the broch still standing to a height of 12 feet, and several interesting constructional features have been laid bare, especially with regard to a secondary occupation of the building. A large number of animal bones were found; the artefacts were chiefly of stone and of bone. The iron boss of a shield near the top of the mound suggested a Viking burial. The subsidiary buildings, together with the broch itself, cover an area of about three-quarters of an acre. The walls of the broch have been given temporary support till the resumption of work next summer.

The Library.—The additions to the Library amount to 133 by donation and 45 by purchase. Besides these, a considerable number of publications of learned societies, etc., have been received by way of exchange and by subscription. There have been two additions to the collection of manuscripts. More than 500 volumes have been bound under the grant from H.M. Treasury towards the binding of books.

The Rhind Lectureship.—The Rhind Lectures for 1930 were delivered in October by Professor Garstang, his subject being "The Hittites."

The Lectureship for 1931 has been accepted by Dr G. G. Coulton, who will deal with "Monastic Life and its Influence on the Civilisation of Scotland."

The Gunning Fellowship.—The Gunning Fellowship for 1930 was conferred on Mr A. J. H. Edwards, Assistant Keeper of the Museum, so that he might visit and study museums in Southern Germany and France. Accordingly, Mr Edwards visited in Germany, Duren, Cologne, Mainz, Frankfurt-an-Main, and the Saalburg; in Switzerland, Basel, Brugg, and Windisch; in France, the National Museum of Antiquities of France at St Germain-en-Laye; and in Paris, Cluny, Jacquemart Andrée, and Musée des Arts Decoratifs.

The Chalmers-Jervise Prize.—Peebles and Selkirkshire were chosen as districts for the Chalmers-Jervise Prize for 1930. Four essays were sent in. The prize was awarded to Mr W. W. T. Hannah, The Whim, Lamancha, for his essay on "The Romanno Terraces: Their Origin and Purpose."

ATHOLL,
President.

NATIONAL MUSEUM OF ANTIQUITIES OF SCOTLAND,
QUEEN STREET, EDINBURGH.

The Report was adopted on the motion of Mr Charles E. Whitelaw, seconded by Sir Robert Gilmour, Bart.

Mr J. Bolam Johnson, Treasurer, read the annual statement of the Society's Funds, which was ordered to be printed and circulated among the members. On the motion of the Chairman, a hearty vote of thanks was accorded to Mr Johnson for his gratuitous services.

MONDAY, 8th December 1930.

SIR GEORGE MACDONALD, K.C.B., F.B.A., LL.D., D.LITT.,
in the Chair.

Before proceeding to the ordinary business of the meeting, the Chairman said: "It would ill become us to enter on the business of the evening without pausing for a moment to recall the passing of one who was for many seasons a familiar and most welcome figure at our monthly meetings. In years, though not in actual membership, Dr Ross was the father of our Society, and I do not think it is too much to say that many of us had for him something that was closely akin to filial affection. To-night we have to realise that, while we shall go to him, he will not return to us. So far as he is concerned,

'Nothing is here for tears; nothing to wail
Or knock the breast; nothing but fair and well.'

He lived a useful and happy life. Length of days was vouchsafed him. And now he has entered into his rest, honoured and respected by his fellow-citizens and his fellow-countrymen, leaving behind him in those seven stately volumes a monument that will serve to keep his own memory and that of his friend and colleague green for generations to come.

"This is not the place, nor am I the proper person, to attempt an appreciation of his achievement in the field of architectural antiquities. But I am going to ask you to send a message of deep and sincere sympathy to those whose house has been left unto them desolate. Knowing as we do the charm of their father's personality, we can in some measure understand how grievous must be their irreparable loss. Perhaps you will be good enough to signify your assent by rising in your places."

The motion was agreed to by the Fellows, and the Secretaries were instructed to send an excerpt of the minute to Miss Ross.

A Ballot having been taken, the following were elected Fellows:—

WILLIAM M. CALDER, M.A., LL.D., Professor of Greek, University of
Edinburgh: Editor of *Classical Review*; 58 St Alban's Road,
Edinburgh.

Mrs KENNETH J. DUFF DUNBAR, Hempriggs House, Wick.

WILLIAM DUGALD MACCOLL, c/o Mrs ANDERSON, 16 Roseneath Place,
Edinburgh.

The following Donations to the Museum were intimated, and thanks voted to the Donors:—

- (1) By Captain A. C. MACINTYRE, Balulve, Islay, through JAMES S. RICHARDSON, F.S.A.Scot.

Axe of black-grey Flint, measuring $5\frac{9}{16}$ inches in length, $2\frac{7}{16}$ inches in breadth across the cutting edge, and $\frac{3}{4}$ inch in greatest thickness. Found ten years ago in front of the farmhouse of Balulve, parish of Kilarrow and Kilmeny, Islay.

- (2) By JAMES S. RICHARDSON, F.S.A.Scot.

Blue Glass Bead of segmented tubular form (four segments), measuring $\frac{9}{16}$ inch in length and $\frac{7}{16}$ inch in diameter. Found near Loch Gruinart, Islay, close to an old fireplace where small fragments of hand-made pottery were found.

Fragment of the rim of a Vessel of red Clay, and Splinter of Quartzite; of sub-oval shape, measuring $5\frac{1}{2}$ inches in length and $2\frac{1}{4}$ inches in breadth, abraded at both ends. Found in a kitchen deposit near Gruinart, Islay. Also a Hammerstone, found near above.

Two Scrapers of light grey Flint, from a bunker, Banaltrum Mhor, parish of Kildalton and Oa, Islay.

End Scraper of brown Flint, measuring $1\frac{1}{2}$ inch by $\frac{1}{4}$ inch, and a small Flake of light grey Flint. Found a few feet from a human skeleton in a flexed position on the sands of Evie, Orkney, south of Aikerness Broch.

Knife of mottled grey Flint, measuring $2\frac{3}{8}$ inches by $\frac{3}{4}$ inch by $\frac{5}{16}$ inch, the edges dressed on the reverse sides, from the Hill of Orphir, Orkney.

Scraper of brown Jasper, measuring $1\frac{3}{4}$ inch by $1\frac{1}{16}$ inch, from the sands near Gullane, East Lothian. All found by donor.

Scraper of brown Flint, measuring 2 inches by $1\frac{1}{8}$ inch, from Torphichen, West Lothian.

Fragment of Panel of Carved Wood, measuring 1 foot $1\frac{1}{4}$ inch in length and 5 inches in breadth, decorated on both sides with rosettes, in chip carving. In addition, one side bears the inscription LORD HELP VS AND SAIF, and, on the other, the initials A. A. and I. S., and date 1595. Bought in Edinburgh.

- (3) By Mrs DICK, The Cottage, Kirknewton, Midlothian.

Iron Cake-toaster, smiddy-made, the movable back in the form of a Scots thistle, flanked by scrolls, bearing the initials L. W. for Lilian Wardlaw, grand-aunt of the donor.

10 PROCEEDINGS OF THE SOCIETY, DECEMBER 8, 1930.

(4) By Mrs K. L. MACDONALD, 33 Regent Street, Portobello, per Mrs FRASER.

Wooden Distaff, measuring $2\frac{1}{2}$ feet in length; Weighing Beam, Wool Winder, and Spinning Wheel, from Lewis.

Two Wool Carders, made in Glasgow.

Red Woollen Blanket with black stripes, white Woollen Blanket with blue stripes; both woven from wool spun on the above spinning wheel.

Home-spun Linen Towel, from Lewis.

(5) By J. M. CORRIE, F.S.A.Scot.

Polisher made of a small white Quartz Pebble, measuring $1\frac{1}{4}$ inch in height. Found by the donor on the site of the new school beside Inveresk Church, Midlothian.

Fragments of a Vessel of dark Pottery, containing crushed steatite, from a "burnt mound" at Beosetter, Bressay, Shetland.

(6) By JOHN READMAN, Earlstoun, Berwickshire.

Jet Bead of domical form, measuring $\frac{1}{8}$ inch in diameter and $\frac{3}{8}$ inch in thickness, from Sorrowlessfield, Earlstoun.

Sub-triangular implement of grey Flint, measuring $1\frac{1}{2}$ inch by $1\frac{1}{4}$ inch, from Park, Earlstoun.

(7) By WILLIAM TAWSE, Aberdeen, through J. INGLIS KER, F.S.A.Scot.

Two Copper Buttons, one gilt and the other silverised, of the Highland Roads and Bridges Commission.

(8) By Lt.-Col. T. W. CUTHBERT, C.M.G., D.S.O., Achindunie, Alness, Ross-shire.

Part of a socketed Bronze Knife, consisting of the socket and part of the blade. The socket is of narrow oval shape, measures $1\frac{1}{4}$ inch by $\frac{1}{2}$ inch in cross diameters at the mouth, and $1\frac{1}{2}$ inch in length, and has two perforations on each side, measuring $\frac{1}{4}$ inch in diameter; the remaining part of the blade is $1\frac{1}{2}$ inch in length. The knife is covered with a thick green patina, glossy in places. Found nearly 50 feet above the burn, on the Alness Golf Course, about a mile from the village.

(9) By J. GRAHAM CALLANDER, F.S.A.Scot.

Point of a Bone Pin, found by the donor in a kitchen-midden near Tain, Ross-shire. A thin, square plate of bone with a perforation at each corner, a small discoid bead of shell, and part of the burr end of a roe-deer horn, at the broken part encircled by a groove worn by friction, found at the same place, are in the Museum.

(10) By HUGH MARWICK, D.Litt., F.S.A.Scot.

Flat, oval Object of Steatite, measuring $5\frac{1}{2}$ inches in length, $3\frac{1}{2}$ inches in breadth, and 1 inch in thickness, with a small drilled hole near the centre of one edge, and encircled round the periphery by a groove which overlaps round one end. Found by the donor in a short cist at Leyland, Sanday, Orkney.

(11) By JAMES FLAWS, Castlehill, Wyre, through J. M. CORRIE, F.S.A.Scot.

Handle or Haft of Cetacean Bone, measuring $6\frac{5}{8}$ inches in length and $1\frac{1}{8}$ inch in greatest diameter, with a hole $3\frac{1}{2}$ inches deep at one end. Found near Cubbie Roo's Castle, Wyre (Viera), Orkney.

(12) By J. J. GALBRAITH, M.D., F.S.A.Scot.



Fig. 1. Cast of a Sculptured Stone once in Nonikiln Kirkyard, Roskeen, Ross-shire.

Plaster cast of a Sculptured Slab, measuring $25\frac{1}{2}$ inches in length by $15\frac{3}{4}$ inches in breadth, with two triangles placed apex to apex, two circles connected by crossed lines, suggestive of a rudely made spectacle symbol, and two circles connected by a single straight line, all incised (fig. 1). The original was found in Nonikiln Kirkyard, Rosskeen, Ross-shire, but has disappeared.

(13) By NICOL DICKSON, Bookan, Orkney.

Small fragment of a finely polished Flint Hammer, red and grey in colour, and half of a Stone Hammer, also well polished, broken across the centre of the perforation. It has been of flattened oval section, measuring $1\frac{1}{2}$ inch by $1\frac{1}{8}$ inch in cross diameters. Found by the donor on Bockan, Sandwick, Orkney. (See *postea*, p. 93, fig. 16, No. 3.)

(14) By PETER IRVINE, Bookan, Orkney.

Leaf-shaped Arrow-head of yellowish Flint, measuring $1\frac{1}{4}$ inch by $\frac{3}{4}$ inch; triangular Arrow-head of brown Flint, measuring $1\frac{1}{2}$ inch by $\frac{1}{4}$ inch; side Scraper of mottled yellow Flint, measuring $2\frac{1}{8}$ inches by $1\frac{3}{4}$ inch; twenty-nine Scrapers of Flint and four of black Chert; three Knives, three pointed Implements; two Borers, and a combined end

Scraper and pointed Implement, all of flint; fragments of three Stone Hammers broken across the perforation. (See *postea*, p. 93, fig. 16, Nos. 1, 4, and 6.)

Piece of ground Hematite, measuring $1\frac{1}{2}$ inch by $1\frac{5}{8}$ inch by $\frac{3}{4}$ inch.

Stone Bead, measuring $\frac{9}{16}$ inch by $\frac{1}{2}$ inch in cross diameters, and $\frac{3}{16}$ inch in thickness. All found on Bookan, Sandwick, Orkney.

(15) By JAMES M'CARGO, Watchmaker, Kirkpatrick-Durham.

Barbed and stemmed Arrow-head of grey Flint, measuring $2\frac{1}{2}$ inches long by $\frac{1}{2}$ inch broad, found on the farm of Culshan, Kirkpatrick-Durham, Kirkcudbright.

Circular Perforated Stone, measuring $1\frac{1}{4}$ inch in diameter and $\frac{5}{16}$ inch in thickness, from Arkland, Kirkpatrick-Durham.

Oval Perforated Stone, measuring $1\frac{1}{8}$ inch by $1\frac{5}{8}$ inch by $\frac{1}{8}$ inch, from Carsphairn, Kirkcudbright.

Whorl of Sandstone, measuring $1\frac{9}{16}$ inch in diameter and $\frac{3}{8}$ inch in thickness, from Loch Doon, Ayrshire.

Whorl of Slate, ornamented on the top and the bottom and round the periphery with parallel incised lines, measuring $1\frac{1}{2}$ inch in diameter and $\frac{1}{8}$ inch in thickness. Found in the Dalveen Pass, Dumfriesshire.

Four Stone Whorls from the Stewartry of Kirkcudbright: (1) domical, measuring $1\frac{3}{4}$ inch in diameter and $\frac{5}{8}$ inch in thickness, from Milton, Urr; (2) of red sandstone, measuring $1\frac{5}{8}$ inch in diameter and $\frac{3}{8}$ inch in thickness, from the farm of Torkatrine, Kirkgunzeon; (3) of slate, measuring $1\frac{3}{8}$ inch in diameter by $\frac{3}{8}$ inch in thickness, from Craigshinnie, Kells; (4) of sandstone, decorated by radial lines on each face, and measuring $1\frac{9}{16}$ inch in diameter and $\frac{3}{8}$ inch in thickness, from Piper's Croft, Kirkpatrick-Durham.

(16) By Rev. Canon H. G. SCLATER, F.S.A.Scot.

Three Communion Tokens of Ballachulish Episcopal Church; *obv.* a Latin Cross; *rev.* M/WF/1781. Square.

(17) By J. D. ALLAN GRAY, M.R.C.P.E., and his sister, Mrs DALES, M.A., B.Sc., in memory of their father, JAMES ALLAN GRAY, M.A., M.D., F.R.C.P.E.

Stone Axe-hammer, finely polished, with a crescentic cutting edge, deep hollows on the top and bottom edges, and tapering to a flat butt end. It measures $5\frac{1}{8}$ inches in length, $3\frac{1}{2}$ inches across the cutting edge, and 2 inches in greatest width. On both faces are two incised lines drawn parallel to the hollows on the top and the bottom, and a shallow longitudinal groove in the centre. The perforation, which is drilled, is $\frac{7}{8}$ inch

in diameter. It has been broken across the middle, but has been mended. The halves were found in successive years on the farm of Barlass, Newport, Fife.

(18) By Rev. JOHN WARRICK, Cumnock.

Covenanters' Flag of the Parish of Ochiltree, of white linen, measuring 6 feet in breadth and 5 feet 4 inches in height. At the left-hand top corner is a St Andrew's Cross—a white saltire on a blue field. The flag also bears the following inscriptions and designs painted on it. To the right of the St Andrew's Cross is an open book with red sides and bearing the inscription DEUS/EST/SEMPER/IDEM on the two open pages. Farther to the right is a crowned thistle with the Royal monogram W.R. At the left side under the St Andrew's Cross is OVCHILTRIE, and across the centre FOR · GOD · THE · COVENANTED · PRESBYTERIAN/ REFORMATION · CROWN · AND · COUNTRIE · 1689.

(19) By Mrs F. S. OLIVER, F.S.A.Scot.

Knife of dark grey Flint, measuring $1\frac{1}{2}$ inch long and $\frac{1}{2}$ inch broad, and two barrel-shaped Beads of Jet, measuring $\frac{1}{4}$ inch and $\frac{3}{8}$ inch in length respectively, the latter bead being split and showing that the hole had been bored from both ends, as the first bore had tended towards one side. Found in a grave in a cairn on the Knock Hills, Edgerston, Roxburghshire.

Calcined barbed Flint Arrow-head, measuring $\frac{3}{4}$ inch in length and breadth, and domical Button of Jet with V-shaped perforation on the under side, measuring $1\frac{1}{2}$ inch in diameter and $\frac{1}{4}$ inch in thickness, from another grave in the same cairn.

Triangular Flake of grey Flint, measuring $2\frac{1}{2}$ inches by $1\frac{1}{2}$ inch, and domical Button of Jet with V-shaped perforation, measuring $1\frac{1}{2}$ inch in diameter and $\frac{1}{2}$ inch in thickness, from a third burial deposit in the cairn.

Five small fragments of a Beaker Urn of buff-coloured ware, a rim fragment being decorated with vertical zigzags of four parts, and the other pieces with horizontal lines and a lattice pattern. Found in another cairn on the Knock Hills. (See *Proceedings*, vol. lxiii. p. 372.)

(20) By JOHN RICHARDSON, F.S.A.Scot., Musselburgh.

Silver Medal of the High School of the Canongate, awarded to DAVID GRANT in 1822. It is of oval shape, with a fixed ring above for suspension. On the obverse is the inscription DAVIDEM GRANT, "*Primum meruit qui laude coronam*" *hoc insigni honoris donarunt Magistratus Vici Canonorum Calendis Augusti MDCCXXII*; on the reverse are

the crest and motto of the burgh of Canongate, a stag's head with a cross-crosslet fitchée between the antlers, and *Sic itur ad astra*, with the monogram D.G.

(21) By THOMAS GUTHRIE, President, Duddingston Curling Club.

Silver Medal of the Duddingston Curling Society, of oval shape and with a free ring for suspension. On the obverse is DUDDINGSTON/CURLING SOCIETY/INSTITUTED 17th JANY 1795; on the reverse two rinks of curlers playing on Duddingston Loch, with Duddingston Church in the background. Above is the inscription *Sic Scoti, alii non aequè felices*.

(22) By Messrs GEORGE HARRISON & Co., 11-13 Chambers Street, Edinburgh.

Three specimens of St Kilda Tweed, acquired from the makers (by the donors) just before the island was evacuated in September 1930.

(23) By the Family of the late JAMES MACKENZIE, F.S.A.Scot.

Cutlass with steel hilt and ivory grip, of mid-eighteenth century date, found in the thatch of a cottage in Kirkmahoe, Dumfriesshire.

(24) By Miss CUTHBERT, The Schoolhouse, Hume.

Cresset of grey Sandstone, of oblong shape, measuring $12\frac{3}{4}$ inches by $9\frac{1}{4}$ inches by $4\frac{1}{2}$ inches, with seven irregular cavities for oil on the upper surface. Found in the foundation of an old cottage at Hume, Berwickshire.

(25) By W. MACKAY MACKENZIE, D.Litt., F.S.A.Scot.

Piece of Wood, shaped and bored, measuring 27 inches by 8 inches by 4 inches, from a crannog, Eilean Tigh na Slige, in Idir Loch, at the north end of Loch Treig, Inverness-shire.

(26) By WALTER G. GRANT of Trumland, F.S.A.Scot.

Stone Hammer of slightly flattened oval section, tapering gradually from the front end to the butt, measuring $4\frac{1}{2}$ inches in length, $2\frac{3}{4}$ inches in greatest breadth, and $2\frac{1}{4}$ inches in depth, with a carefully drilled perforation, 1 inch in diameter, rather towards the butt end. Found on Egilsay, Orkney.

Stone Axe, flaked and partly ground, measuring $5\frac{1}{4}$ inches in length, $2\frac{1}{4}$ inches in breadth, and $\frac{3}{4}$ inch in thickness, found near the Broch of Westness, Rousay, Orkney.

Fragments of Neolithic Pottery from the chambered cairn at Taiverso Tuick, Rousay, Orkney. (See *postea*, pp. 88 and 90, figs. 11 and 14.)

(27) By Miss M. E. BARBOUR SIMPSON, F.S.A.Scot.

Stone Axe, measuring $5\frac{3}{4}$ inches in length, $2\frac{1}{2}$ inches in breadth, and $1\frac{1}{4}$ inch in thickness, one face of which has been used as a hone or whetstone at a late period; found at Farnell, near Brechin, Angus.

(28) By THOMAS UMPHRAY, Harrier, Foula.

Two fragments of dark brown Pottery, containing much crushed steatite: (1) a rim fragment, measuring $\frac{3}{4}$ inch in greatest thickness and showing a perforation made, probably, in mending the vessel, and (2) a base, 6 inches in diameter; from Foula, Shetland.

(29) By JOHN FRASER, Corresponding Member.

Fisgarine Needle of Bone, for making baskets or "casies" of heather or straw, broad and flat, tapering from the top, where there is a large perforation, towards a blunt point, and measuring 5 inches in length, $\frac{1}{4}$ inch in greatest breadth, and $\frac{1}{4}$ inch in thickness, from Harray, Orkney.

Half of a flattened ball of red Keel (ruddle), ground flat on one side, measuring $1\frac{1}{2}$ inch by 1 inch by $\frac{3}{4}$ inch, from Buckquoy, Birsay, Orkney.

Bead of black Glass, measuring $\frac{11}{16}$ inch in diameter, $\frac{5}{16}$ inch in thickness, from Dykeside, Harray, Orkney.

(30) By QUENTIN WADDINGTON, Guildhall Museum, London.

Fragments of Samian Ware which have passed through a conflagration, from Fish Street Hill, near London Bridge.

(31) By Dr T. WALKER-LOVE, F.S.A.Scot.

Nine hand-made Iron Nails, measuring from $1\frac{1}{2}$ inch to $6\frac{1}{4}$ inches long, from an old house, two hundred years old, near Airdrie.

The following purchases for the Museum were intimated:—

Hand-pin of Bronze, with projecting semicircular head surmounted by six projecting sockets, one of which is missing. In the centre, under the sockets, is a small perforation. On the front of the head there is a late-Celtic scroll pattern inlaid with enamel, some of which, of light green colour, survives. The point of the pin is broken off, and the total remaining length is $2\frac{7}{8}$ inches. It is covered with a thick green patina which has been chipped and scraped off in places.

Bronze Pin with discoidal head, in the shape of a wire nail. Just under the head the pin is encircled by a single notched moulding, and $\frac{3}{8}$ inch farther down by two raised mouldings. It is covered with a beautiful green patina, in perfect condition. It measures $2\frac{1}{8}$ inches in

length, and the head $\frac{7}{8}$ inch in diameter. Both found in a mound at Kirbister, Birsay, Orkney.

Jet Necklace consisting of four trapezoidal plates, two triangular terminal plates, one triangular toggle, and one hundred barrel-shaped beads (bugles). The four plates of the crescent are ornamented with punctulated designs. Found in July 1857, with an urn, in a short cist in a natural hillock near Pitkenney, Aberlemno, Angus. (See *Proceedings*, vol. iii. p. 78.)

Silver Vessel, with a spout at one side and a wooden handle projecting obliquely upwards, which was used to feed Sir Walter Scott when an infant. It bears the monogram T.S., and the inscription, THIS PAP CUP, USED BY SIR WALTER SCOTT WHEN AN INFANT, WAS PRESENTED TO MRS MACKENZIE BY HIS MOTHER, MRS SCOTT, engraved on the sides of the bowl. It bears the hall-marks, a lion, a leopard's head crowned, for London, date letter B (1757-58) and maker's mark A.V., for Ayme Videau.

Oval Stone Ball with sixty-seven pyramidal projections carved on its surface, measuring $3\frac{3}{8}$ inches in length and $2\frac{1}{4}$ inches in diameter at the widest part. Found on the site of the broch at St Thomas's Kirk, Hall of Rendall, Orkney, twenty-eight years ago. (See *postea*, p. 96, fig. 19).



Fig. 2. Swastika Brooch from Denholm Hill, Roxburghshire. (1.)

Scraper of grey Flint; fragment of a Jet Armlet of double convex section, notched at one end, measuring $1\frac{1}{8}$ inch in length; Bronze Swastika Brooch, Roman, with the hinge and the catch-plate broken, but showing remains of the coiled spring of the pin, measuring $1\frac{1}{4}$ inch square (fig. 2); Lead Whorl, measuring $\frac{1}{8}$ inch in diameter; Perforated oval water-worn Stone, measuring $1\frac{1}{4}$ inch by $1\frac{1}{8}$ inch, found

on Denholm Hill farm, Roxburghshire.

Barbed Arrow-head of white Flint, one barb broken, measuring $1\frac{1}{8}$ inch in length; Scraper of grey Flint; Saw of grey Flint, and Whetstone, measuring $3\frac{5}{8}$ inches in length, and perforated at one end, found on the farm of Newlands, Garvald, East Lothian, on the field between the Green Castle and Black Castle forts.

Papal Bulla of Lead. *Obv.*, the faces of two bearded men in beaded frames, with a cross between and SPA (St Paul), SPE (St Peter) above; *rev.*, INNO/CENTIVS/PP III.

Brass Candlestick with domed foot and wide grease pan half-way up the stem, found in a peat moss at Beawick, Sandsting, Shetland.

Cast Bronze Armlet of the Early Iron Age, in the form of a coiled serpent (figs. 3, 4, and 5). It consists of three coils, not quite touching, convex on the outside and concave on the inside. Both ends terminate



Fig. 5. Details of Ornamentation.



Fig. 3. Bronze Armlet, front view, found on the Culbin Sands.



Fig. 4. Bronze Armlet, back view, found on the Culbin Sands.

in a conventional serpent-like head ornamented with raised trumpet-shaped designs, with two pairs of small eyes of blue enamel, three of which are now wanting. In front of the end pair of eyes is a sunk circular space which has probably been filled with enamel. The central coil is decorated with pronounced lozenge-shaped projections bordered by trumpet-shaped designs. The armlet measures $3\frac{1}{2}$ inches in length, $3\frac{1}{2}$ inches in external diameter, and $2\frac{1}{2}$ inches in internal diameter at one end, and $3\frac{1}{2}$ inches and $2\frac{3}{4}$ inches at the other. It weighs 2 lb. 9 $\frac{1}{2}$ oz. Found before 1827 on the Culbin Sands, Morayshire, by a sportsman looking for a piece of flint to use as a gun-flint. (See *Archæologia Scotia*, vol. iii. p. 99.)



Fig. 6. Enamelled Gold Locket from Corsewall Castle, Wigtownshire. (f.)

Gold Locket of upright oval shape, hinged at one side, with a loop for suspension at the top, measuring $1\frac{1}{4}$ inch in height, including the loop, and $1\frac{3}{8}$ inch in breadth; weight 8 dwt. 11 gr. (fig. 6). In the centre of each side is a rectangular socket for a setting that is now lost. This is surrounded with cloisonné scrolls which still contain portions of white and turquoise-blue enamel. Round the edge is a border formed by a narrow twisted strip of gold. It bears a strong resemblance to the locket in the Penicuik Collection of Mary Queen of Scots relics in the Museum, which has a miniature of Queen Mary in the central socket on one side, and another of James VI. as a child on the other, and also an edging of seed pearls.

It was found in the defensive fosse surrounding what remains of Corsewall Castle, a building of the fifteenth century situated on the farm of Barnhills near Corsewall Point, Wigtownshire. In his *Description of Galloway*, 1684, Symson refers to this castle as "having

been a considerable house, but now wholly ruinous." Little of it remains except the vaulted basement, now used as a cattle shed, and a wheel staircase in the thickness of an angle in the wall, leading, no doubt,



Fig. 7. Cross from Kilchoman Kirkyard, Islay.

to upper chambers, which have served as a quarry for dykes and farm-buildings and are now no more.

There is no record of the occupation of this castle later than a charter of David II, conveying the land to Sir Alan Stewart of Darnley.

It is recorded in the *Statistical Account*, ii. p. 50, that a small cannon had been found in the ruin, and the further discovery therein of a

silver plate with inscription, a gold ring and some coins is mentioned in the *New Statistical Account*, iv. p. 110.

Free-standing Cross of mica schist, with discoidal head and short arms, the right arm wanting, and the shaft broken across in two places (fig. 7). It measures 6 feet 10 inches in height, and has been 1 foot $6\frac{1}{2}$ inches across the head when complete. The shaft increases from $7\frac{3}{8}$ inches in breadth at the top to $11\frac{7}{8}$ inches near the base, and from $2\frac{3}{8}$ inches in thickness to $3\frac{1}{4}$ inches. On the front of the head is a crucified figure surrounded by the terminations of foliaceous scrolls which spring from the tails of two beasts at the foot of the shaft, between the beasts being a small grotesque human mask. The back of the cross-head and shaft are also decorated with foliaceous scrolls springing from the tails of two beasts at the foot. One of the beasts is beaked and winged, and the other holds a bell of Celtic shape in the left fore foot. On the edge of the cross, starting below the left arm, is the inscription, which is completed on the opposite side, ✠ HEC EST CRUX FAC(TA) PRO ANIMABUS DONCANI MEC INNIRLEGIN ET MARI ET MICHAELIS. From the kirkyard of Kilchoman, Islay.

Two leaf-shaped Arrow-heads of yellow Flint, measuring $\frac{3}{8}$ inch and $\frac{11}{16}$ inch in length, and $\frac{5}{8}$ inch and $\frac{9}{16}$ inch in breadth, found on the boulder clay at the bottom of a peat bank, 5 feet deep, near the northern base of Hinderajfold Hill, Harray, Orkney.

The following Donations to the Library were intimated, and thanks voted to the Donors:—

- (1) By Sir GEORGE MACDONALD, K.C.B., F.B.A., LL.D., D.Litt., F.S.A. Scot.

Römisch-Germanische Forschungen. Herausgegeben von der Römisch-Germanischen Kommission des Deutschen Archäologischen Instituts zu Frankfurt-a-M.—Band IV.—*Vetera*: Die Ergebnisse der Ausgrabungen der Bonner Provinzialmuseums bis 1929. Hans Lehner. Berlin und Leipzig, 1930.

Ausgrabungen in Feistritz a.d. Drau, Oberkärnten. Sonderabdruck aus den Oesterr. Archäologischen Instituts. Band XXV., MCMXXIX.

- (2) By JOHN FRASER, Corresponding Member.

Ye Booke of Halkirk. A. Ross. Institute Souvenir. Halkirk, 1911.
Wick: In and Around It. By John Horne. Wick, 1893.

- (3) By W. DOUGLAS SIMPSON, M.A., D.Litt., F.S.A.Scot.

Urquhart Castle: A Paper read to the Gaelic Society of Inverness, on Friday, 15th February 1920, by the donor.

Jacobite Letters to Lord Pittsligo, 1745-1746. Preserved at Fettercairn House. Edited, with Notes, by Alistair and Henrietta Tayler. Aberdeen, 1930.

- (4) By JAMES STUART BEDDIE, Professor of History, Upper Iowa University, the Author.

Libraries in the Twelfth Century: Their Catalogues and Contents. (Reprinted from Haskins Anniversary Essays.) Cambridge, Mass., 1929.

- (5) By THE DIRECTOR OF THE ROYAL SCOTTISH MUSEUM, Edinburgh.

Education (Scotland). Report for the Year 1929 on The Royal Scottish Museum, Edinburgh. Edinburgh, 1930.

- (6) By ROBERT MURDOCH LAWRENCE, F.S.A.Scot., the Author.

Bygone Footdee Firms and The Motto "Bydand." From "The Aberdeen Book-Lover." Aberdeen, 1930.

- (7) By THE SECRETARY, Manx Museum.

The Journal of the Manx Museum. Vol. i., Nos. 23, 24, June and September 1930.

- (8) By THE TRUSTEES, Manx Museum and Ancient Monuments.

Twenty-fifth Annual Report. Adopted 10th April 1930.

- (9) By CHARLES B. BOOG WATSON, F.S.A.Scot.

Tracing from a MS. Plan, and Description of the Centre of Old Edinburgh. Preserved in the Library of Edinburgh University. There is no date, nor clue as to Author or Recipient. Traced May 1930.

- (10) By RICHARD QUICK, F.S.A.Scot.

Bulletin of the Russell-Cotes Art Gallery and Museum, Bournemouth. Vol. ix., Nos. 2 and 3.

Eighth Annual Report of the Curator, ending 31st March 1930.

- (11) By Mrs G. MACALPINE WOODS, The Croft, Beer.

Proceedings of the Devon Archaeological Exploration Society, 1929. Vol. i., part i.

- (12) By W. FORDYCE CLARK, F.S.A.Scot., the Author.

The Shetland Sketch Book. Edinburgh, 1930.

22 PROCEEDINGS OF THE SOCIETY, DECEMBER 8, 1930.

(13) By THE TRUSTEES OF THE BRITISH MUSEUM.

Catalogue of the Greek and Roman Lamps in the British Museum.
By H. B. Walters, M.A., F.S.A. London, 1914.

(14) By Dr GEORGE F. BLACK, Corresponding Member, the Author.
The Beginnings of the Study of Hebrew in Scotland. New York,
1929.

(15) By Miss J. C. C. MACDONALD, F.S.A.Scot.

National Art-Collections Fund. Twenty-Sixth Annual Report, 1929.
London, 1930.

(16) By HIS MAJESTY'S GOVERNMENT.

Register of Edward, The Black Prince, Preserved in the Public Record
Office. Part i. A.D. 1346-1348. London, 1930.

Close Rolls of the Reign of Henry III. A.D. 1253-1254. London, 1929.

Calendar of State Papers, Colonial Series, America and West Indies.
January 1716 to July 1717, and August 1717 to December 1718. London,
1930.

Calendar of State Papers and Manuscripts, Relating to English
Affairs, Existing in the Archives and Collections of Venice, and in other
Libraries of Northern Italy. Vol. xxx., 1655-1656. London, 1930.

(17) By Emeritus-Professor R. W. REID, Aberdeen, the Author.

Illustrated Catalogue. Anthropological Museum, Marischal College,
University of Aberdeen. Aberdeen, 1912.

Illustrated Catalogue of Specimens from Prehistoric Interments found
in the North-east of Scotland. Anthropological Museum, Marischal
College. Aberdeen, 1924.

(18) By DAS ARCHÄOLOGISCHE INSTITUT DES DEUTSCHEN REICHES,
Berlin.

Bericht über die Hundert-Jahrfeier, 21-25 April 1929. Berlin, 1930.

(19) By Dr W. E. COLLINGE.

Annual Report of the Council of the Yorkshire Philosophical Society
for the Year 1929.

(20) By J. GRAHAM CALLANDER, F.S.A.Scot.

Urgeschichte der Ostalpenländer. By Oswald Menghin. Leipzig und
Wien, 1928.

(21) By THE SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS.
Fifty-Second Annual Report of the Committee. June 1929.

(22) By CHARLES HUNTER, *Huntly Express* Office, Huntly, the
Publisher.

Huntly Castle. By W. Douglas Simpson, M.A., D.Litt., F.S.A.Scot.
Third Edition. Huntly, 1930.

(23) By Professor TANCRED BORENIUS, Ph.D., D.Litt., F.S.A.Scot.
Mediæval Pilgrims' Badges. Privately printed. London, 1930.

(24) By Professor Dr philos. A. W. BRØGGER, Oslo, Hon. Fellow,
the Author.

Den Norske Bosetningen På Shetland-Orknøylene: Studier og Resultater. Oslo, 1930.

(25) By Sir JOHN FLETT, F.R.S., Director of the Geological Survey,
Jermyn Street, London.

Tertiary Gravels of the Buchan District of Aberdeenshire. By the
Donor and H. H. Read, F.G.S. From *The Geological Magazine*, vol. lviii,
No. 683, May 1921.

(26) By ATHOLE G. MACKINTOSH, Solicitor, Inverness.

The Highland Exhibition, 1930. Illustrating the History, Antiquity,
Folk Life, Arts and Crafts, and the Romance of the Highlands and
Islands, from the Earliest Times to the Present Day. In Inverness
Town Hall, 4th August to 20th September.

(27) By CHARLES E. WHITELAW, I.A., F.S.A.Scot., Vice-President.

The House of Whitelaw: A Short History from A.D. 1400 to A.D. 1900
By H. Vincent Whitelaw, F.S.A.Scot. Glasgow, 1928.

(28) By DAS ARCHÄOLOGISCHE INSTITUT DES DEUTSCHEN REICHES.

Deutschtum und Ausland: Studien zum Auslandsdeutschtum und zur
Auslandkultur. Herausgegeben von Georg Schreiber, 23-24 Heft. Neue
Deutsche Ausgrabungen. Herausgegeben von Professor Dr Gerhart
Rodenwaldt. Münster, 1930.

(29) By THOMAS SHEPPARD, M.Sc., F.G.S. F.Z.S., F.S.A.Scot.

The Naturalist, October 1930, No. 885.

(30) By R. S. CLAY, B.A., D.Sc., F.R.M.S., the Author.

Presidential Address: "The Stereoscope." Reprinted from *The Transactions of the Optical Society*, vol. xxix., No. 4, 1927-28. Cambridge, 1928.

A Brief Account of some of the Historical Instruments exhibited at the Optical Convention, 1926. Reprinted from *The Proceedings of the Optical Convention*, 1926. Part II. Aberdeen, 1926.

Some Developments of the Hooke Microscope. By the Donor and T. H. Court. Reprinted from *The Journal of the Royal Microscopical Society*, 1924, pp. 357-64. London, 1924.

The Development of the Culpepper Microscope. By the Donor and T. H. Court. Reprinted from *The Journal of the Royal Microscopical Society*, 1925, pp. 167-73. London, 1925.

The Wilson Microscopes. By the Donor and T. H. Court. Reprinted from *The Journal of the Royal Microscopical Society*, 1926, pp. 208-12. London, 1926.

(31) By JOHN MATHIESON, F.R.S.E., Corresponding Member.

Facsimiles of Ancient Manuscripts. By William Basevi Sanders, late Assistant-Keeper of Her Majesty's Records—n.p., n.d.

(32) By Rev. W. J. COUPER, D.D., F.S.A.Scot., the Author.

Our Lady of Aberdeen. Aberdeen, 1930.

(33) By THOMAS MAY, M.A., F.S.A., the Author.

Imitations of Early Sigillata Shapes by Late Romano-British Potters. Reprinted from *The Transactions of the Birmingham Archaeological Society*, vol. lii., part ii., 1927. Oxford, 1930.

(34) By THOMAS WALKER-LOVE, M.B., F.S.A.Scot.

Historic Notices and Domestic History of the Parish of Shotts. By William Grossart, Surgeon. Glasgow, 1880.

(35) By ARTHUR J. H. EDWARDS, F.S.A.Scot.

Das Römische Amphitheater Vindonissa (Windisch). Fremdenführer. Brugg, 1928.

Die Saalburg. Führer durch das Kastell und seine Sammlungen, von H. Jacobi. Homburg, 1930.

(36) By Professor V. GORDON CHILDE, B.Litt., F.S.A.Scot.

The Origin of the Bell-Beaker. Reprinted from *Man* (1930), p. 142

(37) By J. M. RUSK, F.S.A.Scot., the Author.

History of the Parish and Abbey of Glen Luce, with an Historical Commentary on the Settlement of the Romans in Galloway and the Introduction of Christianity into Scotland. Edinburgh and London, 1930.

(38) By JOHN RICHARDSON, F.S.A.Scot., Musselburgh.

Burgess Ticket of the burgh of Haddington, on vellum, in name of DAVID FORREST, dated 1695. Attached by a blue and white silk ribbon is the burgh seal, in red wax.

Burgess Ticket of the city of Glasgow, on vellum, in name of SIR JAMES CAMPBELL, BART., OF ABERUCHIL, dated 1763. Round the margin is a band containing foliaceous and other designs in colours, and on the back the city's coat-of-arms, also in colours.

The following Purchases for the Library were intimated:—

Petroglyphs of California and Adjoining States. By Julian H. Steward (University of California Publications in American Archaeology and Ethnology. Vol. xxiv., No. 2). California, 1929.

Die Jüngere Steinzeit der Schweiz. By Dr Hans Reinerth. Augsburg, 1926.

Leitfaden der Vorgeschichte Europas. By Dr Johannes Bumüller. 2 vols. Augsburg, 1925.

Osebergfundet. Bind V. Oslo, 1927.

Die Römischen Grabsteine von Noricum und Pannonien. By Arnold Schober. Wien, 1923.

Oesterreichisches Archäologisches Institut. Führer durch Carnuntum. By W. Kubitschek und S. Frankfurter. Wien, 1923.

Aræ Flavie: Führer durch die Altertumshalle der Stadt Rottweil. By Peter Goessler. Rottweil, 1928.

The North-East. The Land and its People. The Book of the Aberdeen Loan Exhibition, 1929, and the Proposed Regional Museum. Aberdeen, 1930.

Royal Commission on Historical Monuments (England). An Inventory of the Historical Monuments in London. Vol. V.—East London. London, 1930.

Dictionnaire d'Archéologie Chrétienne et de Liturgie, vol. ix., part i. and ii. Paris, 1930.

Catalogue of the Roman Pottery in the Colchester and Essex Museum. By Thomas May, M.A., F.S.A. Cambridge, 1930.

Instituttet for Sammenlignende Kulturforekning. *Préhistoire de la Norvège*. By Haakon Schetelig. Oslo, 1926.

The Scots Year Book, 1930-31. Edited by A. Bain Irvine, J.P., F.S.A.Scot.

Flechten und Weben. By Anny Schamtroch and Dr Oscar Raschauer. Vienna, 1929.

Scottish Spinning Schools. By Irene F. M. Dean. London, 1930.

The Arts in Early England. Vol. VI., Part I.—Completion of the Study of the Monuments of the Great Period of the Art of Anglian Northumbria. By G. Baldwin Brown, M.A., LL.D., F.B.A. London, 1930.

Die Urzeit des Menschen. By Dr Johannes Bumüller. Augsburg, 1925.

The Bronze Age. By V. Gordon Childe, B.Litt., F.R.A.I., F.S.A., F.S.A.Scot. Cambridge, 1930.

The Archaeology of Roman Britain. By R. G. Collingwood, M.A. London, 1930.

London in Roman Times. London Museum Catalogues, No. 3. London, 1930.

Roman Malton: A Yorkshire Fortress and its Neighbourhood. By Philip Corder and John L. Kirk. Reprinted from *Antiquity*, March 1928.

Palaeolithic Man in North-West Ireland. By J. P. T. Burchell, M.C., F.S.A., F.L.S., J. Reid Moir, and E. C. L. Dixon, F.G.S. London, 1929.

Craftsmen's Measures in Prehistoric Times. By Ludovic M'Lellan Mann, F.S.A.Scot.

Die Kultur der Bronzezeit in Süddeutschland auf Grund der Funde in Württemberg untersucht von Dr Georg Kraft. Augsburg, 1926.

Die Chronologie der Jüngeren Steinzeit in Süddeutschland. By Dr Hans Reinerth. Augsburg, 1923.

Der Obergermanische-rätische Limes des Römerreiches. Lieferung, 47. Strecke, 13. Berlin und Leipzig, 1930.

The following Communications were read:—

I.

FINAL REPORT ON THE OPERATIONS AT SKARA BRAE.

By PROFESSOR V. GORDON CHILDE, B.LITT., F.S.A. SCOT.

AREAS SOUTH AND WEST OF THE MARKET PLACE.

The first task for 1930 was to clear up the walls exposed in the area south and west of the market place and passage F in the last campaign. A passage, running westward south of the annex to Hut 8, and thus forming a sort of continuation of the main passage, was first freed from sand. No trace of roofing was observed, and, save for a brown layer of refuse 18 inches above the paved floor, the passage was filled merely with blown sand. Its right wall, the outer wall of the annex to 8, soon curved round to join up with the outer wall of the main hut without being properly bonded into the latter. The annex thus appeared as a semi-elliptical addition to Hut 8. When its west wall was disengaged, it appeared that there had once been a doorway on this side too, opposite the existing entrance opening on the market place. Last year we had noted that the west wall of the annex was very flimsy. It was, we now see, really a rough bit of blocking.

Externally the north jamb of this west entry is missing, but the south jamb, a thick stone on end similar to those flanking the inner hut door, survives (fig. 1). Further examination disclosed a hollow space, choked with sand, immediately behind the outer wall of the annex. Its inner face looks like a later addition. In front of the west door and extending south across the line of the passage was a strip of paving 5 or 6 feet wide. West of it was only a carefully prepared surface of blue clay similar to that under the pavement of the market place, but dipping steeply westward. Immediately in front of the door the top of the paving stands 15.50 feet above our datum. Ten feet to the west the level of the clay surface was 14.40 feet, and in the next 4 feet it had dropped to 13.25 feet. There was no midden at all here apart from a layer of limpet-shells, rapidly thinning out, 6 inches above the blue clay. These facts, combined with the abrupt termination of the passage wall mentioned below, indicated that the limits of the settlement had been reached on this side, and work here was accordingly suspended.

At the same time the west wall of Hut 8 was more fully exposed. It rests on a sort of scarcement of horizontal flagstones, over 1 foot wide and about 8 inches high. The lower course of the wall proper is formed of thick flagstones set on edge, the angles between them being filled



Fig. 1. West side of porch of Hut 8, showing blocked-up entrance and external wall of hut.



Fig. 2. The backs of walls *c* and *b* before the removal of midden covering the cell in *b*, viewed from the market place.

with courses of small stones very cleverly wedged in, a procedure also noted on the outer face of Hut 4 (fig. 1).

The south wall of the passage A', here termed wall *d*, after following the curvature of the annex wall, ended abruptly in a ragged gap on a level with the west door of the annex. A thin layer of brown-stained sand and bones, on a level with that reposing on the wall-top, was traceable here westward of the gap for about 3 feet, and then died out as if wall *d* had really ended at this point. The paving of the passage itself merged into that in front of the west door of annex 8 and did not extend west thereof. But the blue clay bedding extended south of the line of wall *d* and was subsequently found all over the area south thereof.

The space between walls *b* and *d*, wrongly termed Hut 9 last year, was next explored. No inner face came to light behind either wall. On the contrary, a new wall, *c*, with its top at a lower level than *b*, was exposed (fig. 2). None of these walls showed the least inclination to converge; all radiate in divergent directions from the south-east corner of the market place. Nor was any structure found between walls *c* and *d*. The whole area was filled with sand interrupted by layers of brown material (sand mixed with refuse) at the levels of the wall-tops. From the latter several fine pins were recovered, mostly near or on wall *d*. The sand throughout the whole space examined rested on the same prepared surface of blue clay, often 10 inches thick, as we have described under the market place and west of the annex to 8. The same bed extends southward under walls *c* and *b*.

In the area between the last-named there was a layer of midden-like material mixed with stones above the level of the top of wall *c*. Under it came a layer of sand 18 inches to 21 inches thick, covering a flagstone pavement similar to that of passage A. This in turn rests on the blue clay bedding. Both walls *c* and *d* are only one course thick; wall *c* being faced on the south and leaning back northward, while wall *d* is faced on the north only. Both were clearly just retaining walls designed to keep back some accumulation, presumably of sand, banked up between them.

Wall *b* presents a very similar character, being faced again only on the south. It rests upon the layer of midden observed along the top of wall *c*. Beneath this both the sand, noted against *c*, and the underlying pavement continue under *b* to reappear on the south. Presumably, therefore, wall *b* was built to replace *c* when the latter had been broken down and silted up with drifting sand. To this extent it represents a concession to dunes encroaching from the south-west.

Yet there is a series of odd structure built into it. About 16 feet from the corner of passage F dry-walling gives place to orthostatæ, which

form the front walls to small buildings. The first is a semicircular or rectangular chamber, some 6 feet wide. Its front is formed of slabs on edge with a gap of 18 inches between them to serve as a doorway. The side walls are dry-built, standing 8 inches high, but the rear wall had collapsed into the sand over wall *c* (fig. 3). It is uncertain whether the structure had even been roofed. It was filled with midden, from which were recovered a big pin of type A1, several potsherds, and a chert



Fig. 3. Back of cell in wall *b*; passage F in background.

scraper. Similar midden was found all along the top of wall *b* to the south-west, where there are indications of other yet more ruinous chambers of the same type.

The area between wall *a* (the west wall of F) and wall *b* was occupied by sand alternating with layers of light midden. None of the midden here had the compact character of the great deposit east of F. It was brown in colour, sandy in texture, and showed no traces of occupation levels such as are observable further east. Save for rare and very fragmentary sherds, scarcely any relics were collected here except on or in the immediate vicinity of walls. The several strata vary greatly in thickness, and tend to merge into one another. The uppermost midden layer, some 18 inches thick over passage F, had contracted to

9 inches 12 feet further west. It seems to correspond with that lying over the wall-tops of *b* and *d*. The next layer, thin except over wall *a*, seems to be that on which wall *b* rests, and which runs over the top of *c*. The last layer rests upon the pavement below *b* and in front of *c*. It seems likely that walls *a* and *c* were contemporary. Wall *b* is admittedly later than *c*, and probably also than *a*, which it will be remembered was breached at its northern end (*Proceedings*, vol. lxiv, p. 180).

Throughout this area no structures were observed; but below the blue clay outside *b* we found traces of a wall, *K*, running east with a curve southwards. Its eastern end is ruined, but would indicate a former extension below the present line of wall *a*. In its best-preserved section it stood five courses high and showed a good outer face towards the north. It doubtless denotes the ruined base of some structure contemporary with Huts 6' and 9, or at least anterior to passage *F*; but its back face was so rough that further examination was deemed unprofitable, and the whole has been covered over.

THE END OF PASSAGE F.

Last year passage *F* seemed still running on into midden though its pavement ended opposite the cell *F1*. On clearing further we found that the right-hand (west) wall, *a*, terminated about 16 feet from the cell entrance. The left wall, on the other hand, was found to run on as the casing wall of Hut 7 round the south of that building. There were three layers of midden in the sand on this side of wall *a*, but all tended to peter out to the south. The top layer, already only 12 inches thick over the end of wall *a*, was reduced to a streak 2 inches wide; 12 feet to the south-west the middle layer had contracted from 9 inches to 3 inches in thickness; and the bottom one had entirely vanished. The paving of passage *F* had, as stated, come to an end opposite cell *F1*, but a surface of compact midden replaced it and continued sloping down to the south-east right to the back of Hut 7, even after the right-hand wall of the "passage," *a*, had come to an end. This midden deposit was shown by the test-pit (described later) to extend continuously down to virgin clay some 5 feet beneath its surface. The casing wall of Hut 7, which is continuous with the left (north-eastern) wall of passage *F* beyond cell *F1*, rested upon this midden, and was buried by its upper strata to a depth of 1 foot. Its base thus lies 4 or 5 feet above the foundations of the wall of the hut proper.

The casing wall just described runs right round the back of Hut 7 to continue on the east as the west face of the passage *C*. The intrusive cist grave described in a later section abuts on the top courses of this wall and would have blocked the continuation of passage *F* to

join that gallery had such existed, as was expected last year. However, no such junction was traced. On the one hand passage F, as such, ceased to exist with the breaking off of its right wall, *a*, soon after cell F1. On the other hand passage C ends behind the south-east corner of Hut 7 in a wrangle of stones that may be the outer casing of cell 7, 1.

Following the gallery up from passage C we had found last year a gap in the left-hand wall on the south, marked G, at a point where proof of roofing ended. Some 12 feet beyond this gap the paving of the passage ceases and its left-hand (south-eastern) wall begins to turn inwards towards the casing wall of Hut 7. After 2 feet 3 inches the two walls are only 1 foot 7 inches apart. Here the left-hand face is broken, but a large stone, 7 inches thick, projects across the passage-way and leans against its right wall. Above it three other big stones lie across the passage-way, while below it is a midden packing 12 inches deep resting on another slab, that likewise lies across the passage (fig. 4). It is then clear that, if not originally so planned, passage C did actually end in a *cul-de-sac* at this point.

THE MIDDEN EAST OF PASSAGE C AND SOUTH OF HUT 5.

The true exit to the passage C must have been the gap G, where a sort of step led up to a few stones lying on the midden surface. Soundings had been made in this quarter during 1929 in the hopes of finding further buildings, but in fact revealing nothing more promising than a slab on edge at a lower level. In 1930 we returned to the attack, but found, instead of structures contemporary with the gallery, a couple of ruined huts belonging to an earlier epoch. To reach these interesting buildings extensive sections of midden had to be cleared away by successive cuts northward and eastward from a face carved out between Hut 5 and the gap G.

The midden over this area sloped away from a point roughly over cell C2, where its top lay nearly 19 feet above our datum. In an easterly direction the dip was roughly 1 in 11 and to the south-east as much as 1 in 7. In the north-west between C2 and the corner of Hut 5 the midden was very compact and clearly stratified. A clean cut here, 6½ feet deep, revealed six distinct layers, each separated by very thin ribbons of sand only ½ inch to 2 inches thick (fig. 6). Under the sixth layer we eventually reached the wall-tops of Hut 9, to be described below. To the south-east the midden was both absolutely shallower and internally less compact and more sandy. Fourteen feet to the south-east the midden layers, mostly 12 inches thick over C2, had contracted to 7 inches, 4 inches or less, while the ribbons of inter-

polated sand had broadened out correspondingly to strata from 4 inches to 8 inches deep; and only the top layer retained on the whole a fairly uniform thickness of about 6 inches and also its consistency. The intermediate layers approximated more and more to the mere stained sand noted in the area south-west of passage F.



Fig. 4. End of passage C with cist grave behind.

In each successive cut backwards the midden was removed in layers according to the beds defined by the ribbons of sand. We thus found that the top layer was everywhere comparatively dense and rich in pins, beads, and other relics, such as are common in the deposit on the roof of passage A. But even the top midden became thinner and more sandy towards the south-east. Layers 2 to 4 were everywhere poor in relics. Up against Hut 5 they resembled the ash layers noted in test-pits under

Huts 1 and 3, while to the south-east they were more like the sand-mixed-with-bones encountered to the south-west of passage F.

Over what we later knew as Hut 9 stones were already plentiful in the sixth layer, and the seventh consisted mainly of stones, shown from their positions to have fallen forward from the hut walls, but yet intimately mixed with midden material. To the east, over Hut 10, the position was more complex. A layer of stones of the sort used for building, principally lying in sand, was so regular as to suggest a pavement sloping up to the base of wall Q', and immediately underneath the building stones were broken slates, partly bedded upon the curious green clay usually found in the hut drains; and the deposit was, in fact, thickest below wall Q' in the north corner of Hut 10, directly behind the cell in Hut 4. The green deposit may therefore represent a discharge from that cell, or still more probably from an early form of the drain of 5(B) prior to the construction of the west-to-east drain (C) across Hut 4. The overlying slabs almost certainly represent a sloping pavement, to make room for which the south-eastern walls of Hut 10 had been almost entirely removed. Immediately under wall Q' some of these slabs survived very much in their original horizontal position. Here they lay 13'80 above datum, the dip of the pavement southward being about 1 in 8.

HUTS 9 AND 10.

The two huts, eventually laid bare under the deposits just described, had both been abandoned at an early date; their walls had been partially demolished and their sites levelled up with midden and stones. As comparatively few relics were recovered from their floors, it must be inferred that these huts had been abandoned deliberately in comparison, at least, with Huts 1 to 5 and 7, whose occupants had fled in such haste that they left many valuables behind them.

The better-preserved hut is that on the north-west, termed No. 9. Save on the west, where the walls had been almost entirely pulled down in constructing cell C2, the walls stand at least 2 feet high all round, so that the hut's general outlines are perfectly clear. A section of the southern wall still stands nearly 4 feet high (fig. 5), for its outer face has been incorporated in the gallery in passage C, which outlasted, if it did not entirely postdate, Hut 9. The chamber proper is trapeze-shaped, nearly 12 feet long, 6 feet wide at its western end, and 9 feet at its rear, but two transepts or apses on either side of the hearth bring up the total width at the centre to 14 feet. The doorway was in the southern corner of the west end. A slab projecting edgewise for the check, the bar-hole and the inner facing slab are preserved on the ingoer's right. The lintel,

left-hand cheek, and most of the western wall have been broken down in building cell C2 (fig. 5). The hut had been presumably entered, like Hut 6, from some form of passage C, and the existing cell C2 subsequently substituted for the door.

In the centre of the hut lies the usual square fireplace kerbed with flagstones. Instead of pens or beds, built out from the wall, there are two deep, wide recesses disposed like transepts on either side of the



Fig. 5. Hut 9: former entrance and southern "bed."

hearth, but partitioned off from the body of the hut, like the beds in the more normal dwellings, by large slabs on edge that here continue the lines of the main side walls. The corners of the recesses are rounded, and the courses begin almost from the floor to oversail one another. Each recess would thus have formed a shallow, corbelled apse. There are distinct indications, particularly in the north-west corner, that the two ends of the main chamber were similarly corbelled. In the southern apse, whose wall, as stated, supports a section of passage C, there is a keeping place on the west side that now forms a sort of window through into the gallery. The outer end of the opposite apse is faced with a tall stone on end recalling the "bed-posts" of other huts (fig. 6). In the normal position, the centre of the rear wall, stands the "dresser,"



Fig. 6. Hut 9: northern "bed" with midden section in background.



Fig. 7. Hut 9: southern bed, cell, and dresser.

not built out as in Huts 1 and 7, but recessed into the wall as in Huts 2, 4, and 5. The three uprights that support its lower shelf and the right-hand shelf have been preserved. The left-hand shelf had collapsed, and no back wall could be found behind it (fig. 7). We suspected that there had once been a cell here as in Huts 2 and 5, but were unable to discover positive evidence for such. On the other hand, there is a perfectly good circular cell in the south-western corner (fig. 7). It was floored with slates and roofed on the beehive plan, as the corbelling,



Fig. 8. Hut 10 with later box in foreground and wall Q' on right.

already visible in the few surviving wall courses, demonstrates. No limpet boxes were detected in the hut floor, but near the disturbed north-west corner a thick slab on edge let into the floor may mark the position of a sump or drain.

Hut 10 was in far worse plight than 9. Segments of the southern and western walls, half a beehive cell, and a tiny section of the east wall alone survive. Neither doorway (the gap on the west has no faces) nor hearth can be traced, but the "dresser" is represented by three buttresses, projecting from the western wall and terminating in stones on end (fig. 8). A slab at right angles to this wall near the hut centre and three similar slabs on end parallel thereto may be

remains of beds. Judging by the extant remains the hut may have measured as much as 16 feet by 14 feet. Its walls are well built, about 2 feet thick, and provided with a good outer face resting on slabs on edge as in the case of 4 and 8.

The few relics left at the time of the huts' deliberate desertion were of exceptional interest. In Hut 9 a pick, C1, and several perfectly normal pins of type A1 lay between the southern bed slab and the hearth. On the opposite side of the fireplace, near the bed slab, we found a perforated antler haft for a celt and a grooved ball of volcanic stone (camptonite). An imperfect and rather rough whalebone basin stood against the back wall near the cell door, and under the dresser a fine pick, C1. Nearby we collected a ball of camptonite carved with spikes but badly chipped, several broken pins A1, a worked tine, one incised sherd and another decorated with small applied circles like those found under the floor of Hut 6 in 1929 and under 3 this year.

Hut 10, despite its more ruinous condition, yielded relics of yet greater interest: two celts near the south wall and a third just in front of the dresser; two fine though broken pins, one of type A4 and a large specimen of A1 with polished head, both near the southern bed slab; and several more commonplace tools, including two examples of B3. Scrapers and chips of white or orange flint were found all over the floor as well as many sherds, often very ornate. A big pot adorned with alternating bands of horizontal ribs and knobs stood right under wall Q' against the western wall of Hut 10, impregnated with the greenish substance previously mentioned. Another fine pot decorated with incised wavy lines and circular stamped impressions had stood against the south wall, a third with incised lines near the cell, and in the cell itself a fourth with the same horizontal rib ornament as was observed on a pot on the floor of Hut 7. For the rest, the floors of both huts were littered with broken bones, shells, and stones fractured by heat. At least one complete antler was found in Hut 10.

Evidently Huts 9 and 10 are materially older than those along passage A and belong to the same context as Hut 6'. Hut 9 must have been deserted before cell C2, which blocks its door, was built; Q', the casing wall of Hut 4, actually cuts the wall of Hut 10 as Q does that of 6'. None the less these early huts are of the same type and yielded the same sort of relics as Huts 1 to 5. The only differences are, on the one hand, the absence of limpet-boxes, on the other the more ornate character of the earlier pottery and the apparent absence of beads.

THE EAST END OF PASSAGE A.

A fourth hut of the earlier period eventually came to light directly under the north-east corner of Hut 4 as a result of operations which must now be described.

The east end of the site has long lain in a forlorn condition, cumbered with rank weeds and the remnants of fences. In tidying it up our first guide was a rough wall-face, seemingly continuing the line of the south wall of passage A, that was just visible left of the passage leading to Hut 4. The weed-covered sand-heap over the north side of 4 was accordingly cleared down to the top of the hut walls and the wall-face just noted. The latter was thus shown to be continuous with the wall of the entrance passage and of the hut itself; the area between the walls being packed with midden, comparatively rich in relics, at least near its surface. The northern wall proved to be merely a retaining wall one course thick with no rear face, but merely backed up against this midden. In its original form this casing wall had turned south quite rapidly and joined on to the hut wall at its north-east corner. It thus supported merely a buttress flanking the hut entrance.

Subsequently the retaining wall was raised and carried right round the hut, reappearing behind it on the south as wall Q' already mentioned. The whole space between it and the hut wall was by then filled with stratified midden. The casing wall on the north and east was in poor condition owing to the action both of storms and still more of plant roots. Outside it on the north and east there are traces of a paving 1 foot 6 inches to 3 feet wide extending at least as far to the south-east as the line of the drain of 4 (C). The paving had been damaged by the same causes as the retaining wall, but it certainly constitutes either a simple continuation of passage A or an eastern counterpart to the market place on the west. It rises gradually from 14'50 opposite the entrance to Hut 4 to 15'50 on the line of drain C. Beyond the line of the drain the paving cannot be traced, but judging by the general trend of the midden it may be expected to dip. In fact it seems to have led out on to a descending midden surface at this point. The casing wall, on the contrary, seems to rise rather on the south. Outside the south-east corner of Hut 4 its top lies at 15'90; immediately above the west wall of Hut 10 its top is 16'60 and its base 13'80. Plainly Q' served primarily to support a sort of platform of midden round Hut 4 since there is only sand against the outer face of the wall above its base. In other words, it raised this platform above the surface of the original mound as did the casing wall of 7 on the south. It rests everywhere on a midden deposit, comparatively loose in texture and

poor in relics, that dips to the east and south-east at a rate of 1 in 7 (measured over the line of the drain and from the south-east corner of Hut 4 respectively) and only slightly less to the south across Hut 10. On the other hand, the outer wall of Hut 4 on the east at least is so well built that it must originally have been designed for exposure. Its bottom course is formed of slabs on edge with the intervening corner filled in with small stones laid flat, and the whole surface has been puddled with blue clay over 6 inches thick (fig. 9). None the less



Fig. 9. Outer face of original wall of Hut 4.

its base lies on midden 4 inches above the base of the inner face, so that some midden must have been there before the hut wall was built at all. The older incurving form of the casing wall presumably corresponds to the period when the east wall of 4 proper had been thus exposed.

HUT 4 AND CONNECTED BUILDINGS.

With a view to tracing the line of drain C east of Hut 4, Mr Houston had a pit sunk upon its supposed line between the hut wall and the casing wall Q'. He found a good built face below the base of wall Q' and separated from it by 9 inches of midden and sand. A section of broken pavement outside Q' was accordingly taken up and a wider trench cut, disclosing the outer face of the same wall standing in disturbed sandy midden to a depth of 4 feet 3 inches. This wall-face turned westward

much more rapidly than the remains of Q', which were removed. The lower wall was then followed round, and brought us to a group of slabs on end disposed in the manner of a door. A clearance was accordingly made right in to the outer wall of Hut 4, disclosing between this and the casing wall, and separated from the bottom of the latter by nearly 3 feet of stratified sand and midden, the wall stumps of a hut hereafter called 4'.



Fig. 10. Doorway of Hut 4'.

Its floor was covered with a thin layer of the usual midden. Thereover lay, near the doorway, sand mixed with building stones, and, on the line of the drain, green sewage clay to a depth of 20 inches; further in a packing of yellow clay partly replaced the sand. A midden deposit 1 foot thick rests upon the sand and partially overrode the stumps of the hut wall. It was interrupted by a ribbon of sand 1 inch thick, that runs perfectly continuously from beneath the outer wall of Hut 4 across to the wall stumps of 4' and above them as far as we have cut. Hence the whole deposit was laid down by strata after Hut 4' had been filled in to the level of its wall tops and never subsequently disturbed. The outer wall of Hut 4 rests directly upon the top of this double layer of midden.

Even after sacrificing considerable sections of the ruinous wall Q' only a small corner of Hut 4' could be explored without imperilling its successor, 4. The entry lay on the south, and the whole of its right (eastern) cheek is preserved. The jamb was, as usual, a slab projecting edgewise (fig. 10). Inside, the cheek was faced with another slab on edge at right angles to the jamb, and pierced with a hole for the bar precisely as in the doors of Huts 1 and 7. On the left the cheek and a stump of the outer facing-slab survive, but for the rest the whole



Fig. 11. Hut 4', interior.

wall on this side must have been pulled down to make room for Hut 4. The lintel of the door is missing, but the sill is still in position immediately outside the jambs. It forms a step down to a piece of slate paving immediately inside the doorway (fig. 11). Inside the hut the eastern and north-eastern wall is still traceable. Immediately left of the doorway the wall thickens, perhaps as a result of a secondary buttress built on. In this thick block was a small beehive cell. The floor of this had been employed to carry the channel of the drain C from the later Hut 4 and the entry to the cell then blocked up. Behind the buttress there is a recess in the original wall about 6 inches above the hut floor (fig. 11). It is about 4 feet wide and 1 foot deep, and is divided into two sections by a pier, each section being floored

with a slate. A shallow cup-like hole has been pecked out of the end of the topmost stone in the pier and can be seen in fig. 10. Very probably the pier supported an upper shelf, so that the whole recess would have resembled a recessed dresser like that in Hut 4. Beyond the recess the wall appears to swing round westward to the north-east corner of Hut 4. A rubbed piece of hematite, a flint scraper, and a thin slab of sandstone with very coarse serrations, like the teeth of a gigantic saw, carefully chipped out along its edge, were found in the recess. The



Fig. 12. Outer wall of Hut 4 with passage and structures beyond it.

only relic on the hut floor was a finely polished awl, unfortunately broken when found.

Hut 4' seems to have opened on to a passage on the south running there north-east and south-west. Opposite the hut door this is delimited by a slab on edge N, the line of which is continued by a well-faced wall-end 3 feet wide, whereas the northern wall of the passage is the outer wall of Hut 4', which itself turns away rapidly northwards. A slab on end, rising 8 inches above the floor, projects half across the passage from the southern wall. East of this there is a sill stone, and below and beyond it a descending pavement turning apparently to the south (fig. 12). It marks the continuation of

the passage, or perhaps its end, since no further walling can be found in this direction on the north. To the south, however, in a line with the sill stone, a wall-face runs southward with a distinct westerly trend, only to die away completely 8 feet south of the sill. It seems to belong to a casing wall, or perhaps a scarcement like that outside Hut 8.

Behind and within it, wall O, whose faced northern end flanks passage A', is better preserved. The lower courses are slabs on edge (fig. 12), and the whole wall runs at first southward then turns west and disappears in ruins, only to reappear after a break, curving back northward so as to end up on a line with the assumed south wall of the passage. Inside, wall O is faced on the east with a tall thin slab on end at right angles to slab N. Further south the built inner face seems to run westward 3 feet back from N for a distance of $4\frac{1}{2}$ feet and then curve round in an arc to meet the west end of slab N. To this extent wall O encloses a small compartment whose plan and slab fencing is strongly reminiscent of a "bed"; and the faced end of wall O with the slab and sill projecting from it suggests a hut door. More probably we have here the ruins of a porch like that of Hut 8. The extant compartment was floored with the usual stamped midden clay and a slate in one corner, and covered with a light midden from which we recovered a typical pin of type A'1 and a long antler stuck point downwards into the floor.

Cutting across the line of the broken south wall of the supposed porch to Hut 4' is a drain—walled, roofed, and floored with slabs. It seems to run out from beneath wall Q'. To the south and under the layer of midden and sand in which the drain was probably cut, a fragment of pavement was uncovered 12.33 above datum, and only about 2 feet below the surface of the here sandy midden. We expected to find it continuous with the pavement noted over the northern end of Hut 10 under wall Q', but it actually seems to lie throughout at a lower, and consequently earlier, level. In the trench, designed to connect the two pavements, we came upon a shallow square box kerbed with flagstones (fig. 8) exactly like a hearth, but paved with a slate and containing no trace of ash, but only the loose midden material that surrounded and covered it. It may belong to the period of the pavement over Hut 10, but no clue was obtainable as to its function and context.

THE DRAINS.

The drain through Hut 4 (drain C) as well as the branch from the cell in 5 (drain B) has been described in *Proceedings*, vol. vii, p. 204, and vol. lxiii, p. 235. As remarked, its outlet beyond the hut walls has

now been traced. It passed under the hut wall and the double layer of midden under and against its outer face; neither show the least trace of disturbance over the line of the drain. Thence the channel ran through the floor of the cell in 4', whose doorway was blocked up after the drain had been laid but before the deposition of the double midden layers. The eastern outfall of the drain below the outer wall is marked by an upright bone in fig. 12 (bottom right). Hence the drain was dug after Hut 4 had been abandoned, but before the east wall of 4 or the stratified midden outside it were in place. From the direction of drain B at its junction with C and the deposit of sewage over Hut 10 I infer that drain C was an extension and diversion of B, planned at the time when Hut 4 was built up against 5 and dug before the erection of the hut.

A test-pit sunk east of Hut 3 between passage A and the breakwater resulted in the discovery of another and larger drain or conduit. Here below the floor-level of A we cut through two layers of midden separated by a band of blown sand (visible in fig. 13). The upper one, 1 foot 4 inches thick and continuous with a packing outside the north wall of passage A, was of the usual compact type, comparatively rich in relics; the lower stratum, 2 feet thick, was even tougher, but contained no artifacts, resembling rather peat ash. Beneath it we found a series of big lintel slabs, mostly cracked and revealing a void beneath (fig. 13). The broken lintels, the largest of which measured 4 feet 9 inches by 2 feet 6 inches by 4 inches, after being photographed, were carefully taken up. A channel varying in width from 1 foot 4 inches to 3 feet 4 inches at the top was thus disclosed. Its walls are formed partly of slabs on edge and partly of dry building, and vary in height from 12 inches to 20 inches. No floor was detected. The walls rest on very tough, black, peaty midden containing many split animal bones, antlers, shells, etc., and exhaling a stench like rotting seaweed. The space between the walls was partly choked with loose material of a similar colour.

Below the solid lintel the channel can be seen running under passage A and turning slightly westward as if it might eventually reach Hut 5. Northward it has been traced as far as the modern paving over the sea-wall. A study of the conduit shows that it sloped down gently seawards. It was therefore indubitably a channel running out to discharge into the bay.

In the light of these observations the character of "passage D" described last year must be reconsidered. In the construction of its lintelled roof, the conformation of its wall, in the absence of floor, and in width D agrees more closely with this undoubted sewer than with any passage, though its walls stand at least $2\frac{1}{2}$ feet high in places.

Moreover, the lintels of D under Hut 6 indicate a steady slope downwards in an easterly direction, *i.e.* towards Hut 5. Passage D should therefore be described in future as drain D. On the other hand, the lowest easternmost lintel of D between wall Q and Hut 5 lies only 10.42 above datum, whereas the highest exposed lintel in the northern drain,



Fig. 13. Lintels of drain E.

E, is still 11.10 above datum just north of passage A. Accordingly drain E cannot be a simple continuation of, or outfall for, drain D. Moreover, it will be remembered that the latter was found to debouch into an irregular and floorless "Chamber 5" under the floor of Hut 5. We must then regard this so-called chamber as in reality a sump or cistern. Quite possibly drain E took the overflow from this sump.

Last year I assigned a very high antiquity to drain D. To what extent must that view be revised? Now we have said that drain E was covered by a double layer of midden separated by a stratum of sand. This band of sand runs right across the drain without the least trace of distortion or disturbance. Hence the midden over it had not been disturbed in cutting drain E. It is practically inconceivable that a tunnel should have been driven, with the aid principally of bone tools, under this thick midden deposit and the superincumbent structures. We must then admit that the midden layers and *a fortiori* the structures, such as Hut 3 and passage A which they support, are posterior to the excavation and roofing of the drain E. For the same reason it must still be held that passage B and Hut 5 are posterior to drain D; under wall Q the blue clay bedding and midden layers, though sagging where lintels had collapsed, ran continuous across the line of drain D. The antiquity of the latter relative to Hut 5 remains therefore unimpaired by any change of view as to its character. Its relation to Hut 6' is, however, still in doubt. But just as the outer wall of Hut 6' rises above and curves away from the roof of drain D, so the outer wall of what is presumably a Hut 3' of the same age as 6' is visible curving away from the west side of drain E with its top at least emerging above the levels of the latter's lintels. The floor of the ruined Hut 3 prevented any exploration of the supposed Hut 3'; but it seems to be filled with sand to its wall tops, and the sand can be traced down for some distance without reaching a floor. It may further be remarked that under the supposed ash layer flush with the roof of the drain are indications of an occupation level from which a decorated sherd (541), a blunt-nosed tool (B3) and other relics were recovered. This level should be related to 3', as are the levels outside and contemporary with Huts 1 to 5 to these later buildings.

THE DEEP MIDDEN.

With a view to the possibility of roofing over the whole complex of buildings at Skara Brae, ten deep shafts were sunk at convenient points to ascertain the depth of solid virgin clay or rock. We have thus reached virgin soil at thirteen points in all, gaining incidentally very valuable information as to the original occupation of the site. In every pit but one we cut through midden deposits of varying thickness, and in several we encountered remains of buildings even older than Huts 4', 6', 9, and 10. Only in pit XIII, sunk just behind the breakwater against our western boundary fence was nothing but pure sand encountered above virgin soil.

The results of the soundings in 1929 and 1930 may be tabulated thus:

48 PROCEEDINGS OF THE SOCIETY, DECEMBER 8, 1930.

PIT I.

Between Passage A and Breakwater east of Hut 3.

Period and Layer.	Top of Deposit.	Deposit.	Thick- ness.	
			ft.	in.
IV. {	14'00	Floor of A		
	2	Red midden	2	2
III. {	12'70	Sand	0	5
	12'30	Ash midden	1	2
II. {	11'10-10'33	Lintels of drain		
	4	Loose filling	1	0
I. {	9'10	Black midden	2	0
	7'10	Brown midden	1	4
	5'80	Sand	2	0
	3'80	Clay		

PIT II.

Under Floor of Hut 1, north of Hearth.

Period and Layer.	Top of Deposit.	Deposit.	Thick- ness.	
			ft.	in.
IV. {	12'80	Floor of 1		
	...	Floor midden	1	0
III. {	11'80	Ash midden	5	9
	6'10	Sand	2	4
II. {	4'00	Clay		
	...			

PIT III.¹

Between Huts 2, 8, and Breakwater.

IV. {	1	17'15	Modern turf	2	0
	2	15'15	Disturbed soil	2	1
III. {	3	13'05	Brown midden	0	6
	4	12'75	Sand	0	6
II. {	5	12'25	Brown midden	0	6
	6	11'75	Blue clay	2	0
I. {	7	10'45	Built wall standing in the sand.		
	8	9'75	Brown midden	3	2
		6'45	Sand	2	6
		3'95	Clay		

PIT IV.¹

East of Hut 4 on Line of Drain.

IV. {	1	14'40	Midden surface		
	2	13'50	Loose midden	0	10
III. {	3	13'30	Sand	0	3
	4	12'00	Midden	0	4
II. {	5	12'00	Sand	0	9
	6	12'20	Midden	2	2
I. {	7	9'90	Blue clay	0	8
	8	8'60	Black midden	2	4
	9	6'30	Brown midden	0	6
		5'80	Sand	1	3
		4'00	Clay		

PIT V.

Hut 5.

II. {	1	11'80	Hearth		
	2	11'30	Hearth ash	0	6
I. {	3	9'80	Midden clay and stones.	3	0
	4	8'30	Wall in midden		
		7'50	Loose midden	0	10
		5'80	Sand	1	8
			Clay		

PIT VI.

Market Place.

III. {	1	14'00	Paving slates		
	2	14'05	Slabs and blue clay	0	7
II. {	3	13'55	Sand	0	6
	4	12'80	Brown midden	0	9
I. {	5	12'55	Sand	0	3
	6	11'05	Brown midden	1	6
	7	10'05	Black midden	1	0
	8	6'80	Brown midden	3	3
		6'20	Sand	0	5
			Clay		

PIT VII.

Floor of Hut 10, east end.

II. {	1	11'60	Floor		
	2	9'40	Brown midden	2	2
I. {	3	7'00	Sand	1	2
			Clay		

PIT VIII.

Hut 6'.

II. {	1	10'10	Hut floor		
	2	8'90	Blue clay	1	2
I. {	3	7'60	Midden	1	4
		6'40	Sand	1	2
			Clay		

¹ In pits III and IV the strata showed an easily measurable dip to the north and east respectively; see scaled sections in pls. II. 2 and III. 3.

FINAL REPORT ON THE OPERATIONS AT SKARA BRAE. 49

Pit IX.

Floor of Hut 7, east end.

Period and Layer.	Top of Deposit.	Deposit.	Thick-ness.	
			ft.	in.
1	8'80	Floor of hut . . .	0	10
	...	Floor deposit and clay.		
2	8'00	Sand	0	6
	7'50	Clay	

Pit X.

South of Hut 7, outside west corner.

Period and Layer.	Top of Deposit.	Deposit.	Thick-ness.	
			ft.	in.
1	13'25	Base of casing wall	4	7
	8'85	Midden		
		Clay	
		(A thin band of blue clay at 12'85.)		

Pit XI.

In front of Wall K, south-west of Passage F.

III.	1	15'00	Top of wall K . . .	0	3
			Blue clay	1	0
	2	14'75	Midden against K . .	0	11
II.	3	13'75	Base of wall K . . .	3	10
			Sandy midden, and blue clay.	0	1
	4	12'90	Midden	0	11½
I.	5	9'0	Sand	0	9½
			Midden	0	
			Sand	0	
		7'90	Clay	

Pit XII.

Between Walls c and d, south of annex to 8.

III.	1	15'30	Blue clay surface . .	0	10
			Blue clay	0	9
II.	2	14'50	Midden and stones . .	1	6
	3	13'70	Sand	3	0
	4	12'20	Black midden	2	0
I.	5	9'20	Brown midden	
		7'20	Clay		

Pit XIII.

North-west Corner of our Land 90 feet west of pit III.

11'75	Modern paving over breakwater.	...
...	Blown sand	7 10
3'95	Clay

The virgin soil was everywhere an olive-coloured clay, mixed with yellow stone and not free from vegetable material. It presumably represents an old land surface. This old surface lay practically level at about 4 feet above our datum, or 17½ O.D. along the line through pits I, II, and III, more or less parallel to the sea-wall. From this base it must have sloped up inland most markedly to the south-west. The highest point actually reached was 8'60 behind Hut 7, 77 feet from the base line. But the figures for pits VI and XI suggest a ridge running obliquely to the base line rather west of Hut 7, with dips both east and west of it.

Before occupation of the site began the irregularities of the original land surface had been partly counterbalanced—but accentuated on the south-east—by accumulations of sand on the lower parts of the slope. Along the base line pure sand to a depth of from 2 feet (pit I) to 2 feet 4 inches (pit III) separated the land surface from the lowest humanly created deposit, so that the base of the latter lies already

between 5 feet 10 inches and 6 feet 3 inches above datum. On the line of section through 5, 6, and 7 the sand deposit is seen to thin out gradually so as to bring the surface originally available for occupation up to an almost level plane (7.50, 7.20, and 7.90 feet above datum). Over the high ground south-west of F in pits X, XI, and XII no appreciable sand layers were encountered, midden and (in pit XII) structures reposing directly upon the virgin clay. On the other hand, to the south-east under 10, though the land surface was already 7 feet above datum, it was covered by nearly 2 feet 6 inches pure sand before man began to make deposits there. Does this indicate a late extension of settlement to this area or premature accumulations of sand on the slope sheltered from the south-west gales?

No further uniformities are observable in the deposits encountered in the test-pits. Stratification has been partly deformed by buildings of various dates. The corner of a typical fireplace was disclosed on virgin clay at the bottom of pit XII (fig. 14). On the east, in pit IV, a well-built wall of three courses and standing nearly 2 feet high reposed on the lowest midden layer and on the pure sand below. Both constructions must belong to a period anterior even to huts of the series 4, 6, 9, and 10. In pit III there was a wall of three courses about 10 inches high standing in the thick sand layer immediately over the lowest midden deposit. The sand layer of nearly 3 feet interpolated between the midden strata here must be the accumulation sheltered by or in the building to which the wall belongs, for elsewhere we find thick deposits of sand only between hut or passage walls, as, for instance, in Hut 6. The deep layer of sand over the black midden in pit XII and the thinner layers in VI may be due to proximity to the edge of the settlement where, as the later history of the same area shows, deposition of rubbish was less intensive and slower relatively to the formation of sand drifts than near the centres of life.

Turning to the artificial deposits, the blue clay layers denote either occupation surfaces, such as that still exposed west of Hut 8, or foundations for buildings, as under Hut 6. The varieties in the so-called midden are really very puzzling. The black midden has either been formed entirely under water or has been continuously saturated, for it contains wood, plant roots, and mosses which can only be conserved under such conditions. At the same time split animal bones, limpet-shells, and even artifacts are quite common in this midden. The retention of the water needed for its qualification may be due to the impervious nature of the underlying stratum of brown midden. It is also significant that this deposit was found under the lines of drains

B and E in pits I and IV. Under the floor of Hut 1 the main accumulation, 5½ feet deep, shows no stratification, and contains very few bones or shells, and no artifacts whatsoever. It is red in colour, and looks like peat ash, yet it is as tough as clay. It is obviously of the same



Fig. 14. Corner of hearth built on virgin soil at the bottom of test-pit XII.

kind as the 2 feet immediately overlying drain E. In other pits considerable layers of midden were sterile as far as relics were concerned, but were brown in colour and included abundant broken bone,} thus resembling the "sand with bones" found south-west of passage F save for their greater toughness.

Partly owing to the presence of such sterile layers relics from the deep midden are rare. The following are the most important in order of relative depth:—

- 619. Blunt-nosed tool, B3, pit IV, layer 8, level 6'00.
- 615. Typical pin A1, pit IV, layer 7, level 7'00.
- 616-8. Flint flakes, including a point trimmed on both edges from same level.
- 123. Sherd of usual pottery with applied rib ornament, pit VI, layer 7, level 7'00.
- 516. Coarse sherd with rib ornament, pit III, layer 7, level 7'25.
- 614. Small tumbler with ribbed rim behind wall in pit IV, layer 7, level 8'50.
- 118. Sherd of usual pottery, pit VI, layer 7, level 8'75.
- 117. Pin, type A1, but with the head articulation rubbed smooth, pit VI, layer 7, level 9'15.
- 318. Normal Skail knives, pit XII, layer 4, level 11'00.
- ¹532-4. Pot base, Skail knife, and shovel C2, pit I, top of layer 5, level 9'10.
- ¹541-2. Sherd with chevron pattern in relief and tool B3, pit I, layer 4, level 10'10.
- ¹124-5. Normal pot base and incised sherd, filling of drain D, level 8'10.
- 347. Awl B2, pit XI, layer 4, level 11'00.
- 345-6. Pot lid and normal sherd, same deposit, level 12'00.
- 511-2. Pot base and tool B3, pit III, layer 4, level 12'50.
- 574. Skail knife, pit X, layer 1, level 11'10.
- 573. Sherd with applied ridges slashed, same deposit, level 11'25.

These sparse relics suffice to place beyond all possibility of doubt the essential continuity and homogeneity of the culture current at Skara Brae from the first occupation of the site till the latest encampment on passage roofs. They thus accord with the evidence of the typical fireplace exposed on virgin clay at the base of pit XII. Within this continuity we have already noted, in discussing the relics from 9 and 10, indications of evolution or degeneration. But the degenerative changes in the ornamentation of the pottery denote no sort of break in the single ceramic tradition just as the distinctive features of the later huts are foreshadowed specifically in 4' and 9'.

THE CONFORMATION OF THE VILLAGE AT VARIOUS PERIODS.

The test-pits, by disclosing the original condition of the site prior to human occupation and the structure of the earlier man-made layers, help us to reconstruct the history of the village and its appearance at various epochs with far greater accuracy than was possible last year.

¹ The deposits in which these objects occur are not undisturbed or stratigraphically sealed.

We must, however, first consider the dip of the strata and the absolute thickness of the deposits resulting from human occupation. Only in pits III and IV did the width of the trench and other conditions allow of even an approximate estimation of the inclination of the various strata. Pit III, lying north-west of Hut 2, disclosed a slope seaward and northward of 70 in 7·20 (1 in 10·3) in the case of the top midden (2), while the surface of the bottom midden dipped as much as 1·70 in 5·00 in the same direction. The undisturbed sand beneath was virtually level over the 2·50 feet exposed. In pit IV on the east, the top surface, represented on the west by the pavement continuing passage A, seems to slope eastward about 1·20 in 6·50, and the lower black midden rather less.

The evidence of a rapid northward slope revealed in pit III is important as indicating that there had never been a very large extension of the settlement towards areas denuded by recent erosion. In pits III and IV, and still more obviously in pits VII and X, we are therefore probably nearing the limits of even the earliest settlement, which we had already transcended in pit XIII.

A consideration of the total depth of deposit supplements the indications of the test-pits. In estimating the total human accumulations it must be remembered that most pits were sunk either under the floors of buildings of period III (Huts 1, 5, and 7, and the market place), or else in areas denuded by erosion (pits I and III), or by deliberate excavation (VII, VIII, XI, and XIII). In the first case some addition for the height of the enclosing walls must be added, but the exact figure is incalculable. The loss due to denudation on the coastal side of the site cannot be estimated, and in the case of the very loose and sandy deposits above the mouths of pits XI and XII, and to some extent in IV, it is difficult to obtain a fair term of comparison with the compact deposits over Hut 6. In the latter case we have to add to the figures (given on p. 48) 2½ feet sand between the walls of Hut 6 and 6½ feet compact midden and clay above this, making the total artificial deposit above the virgin sand 11½ feet thick, by far the deepest and most solid accumulation actually cut through. But, of course, along A the midden top was actually 1 foot or 2 feet higher and the virgin soil probably slightly lower. Pits XI and XII were dug down from a blue clay surface, regarded as contemporary with passage A in its final form. But above this were layers of loose midden-like material, interlarded with cleaner sand, amounting to as much as 3 feet over pit XI. Clearly this very loose deposit, supported by retaining walls, cannot be simply compared with the tough compact layers over Hut 6. It should perhaps be reduced to 1 foot or 18 inches, the equivalent of the deposit over the

roof of passage A. Some similar reduction might perhaps be justified also in the case of the rather sandy material 3 feet deep over the floor of Hut 10 (pit VII), and for the top layers in pit IV. The following table gives adjusted estimates of the thickness of the deposits:—

Pit.	Position.	Base of Deposit.	Observed Top of Deposit.	Balanced Depth.
VIII	Hut 6	7.55	18.75	11.50
VI	Market place	6.20	14.60	9.00
XII	Area <i>cd</i>	7.20	15.35	9.00
XI	North of wall K	7.90	18.50 (15.00)	8.00 (10.50)
IV	East of 4'	5.80	14.40	8.60
X	South of Hut 7	8.65	14.00	5.75
VII	East side of Hut 10 . .	9.40	14.60	5.20

Glancing at these figures, the reader will be at once struck by the marked unconformity between the slope of the midden mound and that of the original clay of sand surface supporting it. The midden is lowest over the highest point of the old land surface exposed in any pit and thinnest over the topmost point of pre-midden sand dune; and it was absolutely thickest and highest over the comparatively low sand which may be assumed under passage A. The latter region was therefore the centre of village life during the period denoted by the passage. At the same time, the comparatively deep deposits over the high ground south-west of passage F may well indicate an earlier era of quite intensive occupation in that direction. An extension of exploration here beyond our present boundaries might therefore have interesting results.

In the light of these data and the observations on the more superficial midden layers detailed on pp. 32 f. let us next attempt to reconstruct the appearance of the site at the several periods of its occupation, beginning near the end when passage A was already built and in use.

By this time the virgin soil had become covered with a gigantic midden heap. The now determinable portions thereof—for nothing can be said of the storm-eroded section to the north—may be compared to a triangle whose base and crest ran along the line of passage A. From this basal ridge, at least 15 feet above virgin soil,¹ the mound sloped away gently to the south and rather more steeply to the east, while on the west its edges were bounded by passages E and F. Beyond these were open spaces with Hut 8 standing free on the north. The main mound was being covered with a mantle of occupation midden, as the villagers lived and cooked upon its surface in fine weather. Passages A, B, C, and perhaps a section of F, were all covered with this deposit. It

¹ Petrie describes the mound as 15 or 16 feet high in 1850, *Proceedings*, vol. vii. p. 201.

was totally absent over Huts 1 to 5 and 7 alone.¹ Why were these areas then unoccupied? Plainly because roofs and walls projecting above the general level precluded occupation on the surface. We must then imagine six erections of undeterminable form projecting from our mound. Incidentally the absence of the A midden (that found over passage A) above Huts 1 to 5 and 7 shows that all existed contemporaneously in what we may term period IV. The regions south of F were at the same period open spaces, already partly blocked by retaining walls, against which sand was banked up.

Extensive reconstructions must have been undertaken during this period. The market place and passage F clearly belong to an early phase within it; but before it closed, the roof of passage F had fallen in and the old retaining wall *c* had been replaced by *b*. Near the centre the shed LM had replaced Hut 6 and had in its turn fallen into ruins. Perhaps, too, some of the casing walls on the east and south were only added to the respective huts during period IV. The east wall of Hut 4, puddled as it was with blue clay, looks as if it had once been intended for exposure. Perhaps, then, the casing wall Q (apart from the small buttress of the north) was only built over 2½ feet of midden accumulated in an earlier period (p. 39) whether gradually or in two acts of deposition. The same may be true of the casing wall of 7 on the south-west. The casing wall of 5 must, however, be earlier (just as the hut itself is earlier than 4), since Q had to be partially demolished to make room for Hut 6.

There was, however, a period when Huts 1, 4, 5, and 7, at least (and possibly also 2 and 6), and a form of passage A already existed, but the floor-level of the latter stood some 2 feet lower than at present so as to join on easily to that of passage B. This may be termed period III.

It is less easy to work back further and visualize the condition of the site before the erection of Huts 1, 4, and 5. All rest upon thick accumulations of refuse; to make room for them the walls of the earlier huts from which presumably these accumulations in part proceeded had been broken down and the chambers levelled over, for the walls of 4 and 5 overlie the wall stumps of 4' and 6' respectively. We are thus brought to an earlier epoch of building, which may be termed period II. Huts 4 and 5, presumably also 1, 2, and 3, and passage A rest upon debris from this period. To it belong Huts 3, 4, 6, 9, and 10. Some form of passage C must already have

¹ We noted that over the area of Hut 6, in the corner between Hut 5 and passage A, the midden was thin; in fact it resembled the "sand mixed with bones" with which we have since become familiar.

existed, though it outlived the period. Walls of the same age are also incorporated in passage B, though that in its final form is later.

But what of Hut 7? It lasts into period IV, though its floor-level is that of period II. It rests on virgin soil, yet an accumulation of refuse, varying in depth from $5\frac{1}{2}$ feet on the south to 11 feet on the north, surrounds it externally. Is Hut 7 a survival from period II? Has it, that is, got buried by accumulations from that and subsequent occupations? or were its foundations sunk into a deposit of earlier date (II) during period III? Or, thirdly, was the area south of the present Hut 7 still clear of midden at the end of phase II so that the hut could then be built on the open and buried in deposits of subsequent periods. The last possibility seems to be excluded by the character of the sherd collected in the midden 2 feet below the southern casing wall; it agrees better with the pottery of period II than with that of later ages. Yet it is not impossible that refuse from period II should have been collected elsewhere and banked up outside the hut's walls. Against the second alternative is the absence of proof that any huts had been actually sunk into a midden or soil to a depth of anything like 5 feet, whereas we do know that Hut 8, and very likely Hut 4, bear witness to the possibility of free-standing huts.

If Hut 7 were a survival from period II, the accumulation of midden between passages C and A and the existence of A as a walled passage would become puzzling. Not only Hut 5 itself but also its outer casing wall, Q, seem to have been built immediately after Hut 6 had been demolished and filled up to the 12.50 level. The presence of a casing wall would suggest an open space above this level west of 5 and extending south from the line of A to passage C. At the west end of the latter the outer wall of Hut 6 turning northward would form the east wall of a rudimentary passage B for a short distance. The west wall of B would seem to have been the outer wall of a Hut X of period II still lying unexplored under the deep midden left *in situ* between passages A, B, and F. A segment of the same hut wall seems incorporated in passage A a little west of the mouth of passage B. But Hut 6, a small chamber which for a short time only occupied the space between B, A, and Hut 5, was apparently only built when that area had been filled up to a level of 14.00 feet or more. As part of the casing wall of 5 (Q) had to be removed to make room for this hut, it must have been built some time after Hut 5, and the accumulation of the extra 18 inches or 2 feet of deposit between A and C must have occupied this time (about 1 foot of wall Q was left standing under the floor of 6). Without Hut 6 in position it is hard to visualize either the nature or function of the walls of A and B in this corner. But some sort of walls

were probably already there, since at the junction the south wall of A was traceable below the present level of the passage floor for 2 feet to level 12'65, the present floor-level of B at this end. This section of the south wall of A and east wall of B must therefore have been constructed about the same time as Hut 5 when 6' was levelled down and filled in. Their exact nature before Hut 6 was backed up against them cannot be determined without operations that would be anything but preservative in result. We must then probably imagine a levelled surface formed of the ruins of, and refuse from, huts of period II, upon which 1 and 5 and passage A were erected, sections of the outer walls of 6' and X being conserved and joined up with the newly-built south wall of A to form the passage B that links 7 to the newer structures.

How do the sewers fit into this scheme? We have already seen that they must in all probability have been cut before the erection of Huts 5, 4, and 3 and passages B and A. Sewers D and E would thereby seem to be assigned to period II; but their tops are too near the floor-levels of Huts 6' and 3 respectively for the sewers to be much use in draining these dwellings. They must rather have been designed to carry away rain-water and soakage from outside the hut walls, and so keep the interiors dry.

The huts of period II rested, as we saw, upon deposits of a still earlier period, I. In the south-east the blue clay bed, layer 6 in pit IV, lying at 9'90 represents a period II surface laid upon the deposits of period I, which include the wall in layer 7. On the north-east the blue clay that slopes from 12'25 to 11'45 in pit III may equally represent a period II surface, so that the wall below it would likewise belong to period I. If wall K belongs to the period II complex, the 4½ feet midden beneath its foundations in pit XI might again belong to period I. To that period must in any case be assigned the fireplace on virgin clay in pit XII, and probably the bottom midden in pit VI. On the other hand, the deposits actually found immediately underlying certain period II floors in Huts 6' and 10 were only 1 foot 2 inches and 2 feet 2 inches thick respectively. On the whole it would seem that the period I occupation was as extensive and as intensive as that of later epochs.

To the long series of years denoted by these four successive and complex phases of settlement may be added something for a "re-occupation period" subsequent to the catastrophe that caused the hasty desertion of the period IV huts and initiated their silting up with sand. The relics, particularly the beads, abandoned on the floor of Hut 7 at the moment of its hasty evacuation are so similar to those lost under like circumstances in 1, 2, 4, and 5 that I incline to abandon my view of an earlier desertion of Hut 7 and to envisage only one catastrophe

which wrecked the whole village. I would accordingly assign to the "re-occupation period" the temporary hearths and structures in 7, as well as the skeleton discovered by Mr Watt 3 feet above the fireplace of Hut 1 (*Proceedings*, vol. vii. p. 210) and the thin layer of limpet-shells beyond the market place. The topmost midden in the south-west may likewise date from the same period, and indicates encampments of impoverished refugees who had taken refuge on this higher ground.



Fig. 15. Intrusive cist grave south of Hut 7 before removal of cap-stones.

INTRUSIVE BURIALS SOUTH OF HUT 7.

To a still later date and a different people must be assigned two graves found in the superficial sand right beneath the line of the Department's fence south of Hut 7. The cover-stones of the one grave were encountered only 18 inches beneath the surface of the turf 17.50 above our datum (fig. 4). They proved to belong to a cist grave extending somewhat beyond our boundaries, which by the courtesy of Mr W. Scarth I was allowed to explore fully. The cist (fig. 15), was entirely formed of thin slabs, three on edge at either side and one at each end forming

the walls, and three lying flat, the cap-stones. The cist which lay north and south was 5 feet 7 inches long externally and 5 feet internally, 1 foot wide inside and about 1 foot 3 inches deep. The cap-stones varied in width from 1 foot 7 inches to 2 feet 10 inches. There was no floor, and the middle cap-stone was broken. On removing the cap-stones we found a complete skeleton, evidently belonging to a female of low stature, lying extended (fig. 16). The head lay in the north end with



Fig. 16. Skeleton in cist grave.

the face turned to the west. The body had probably been laid slightly on its right side against the left wall, but so that the left arm came eventually to lie along the wall. The skeleton was in excellent preservation, with traces of flesh still adhering to the bones. No offering was found within the grave, though a piece of deer's antler projected into it from the underlying sand beneath the headstone and a pebble used as a hammer-stone was found in loose sand near the supposed base of the grave.

A second grave must have existed in the sand at the same level 2 feet to the west of the first; but it had been disturbed, probably

in building the fence, and only a couple of slabs broken and in complete disorder marked its former position. Yet from loose sand in the vicinity we collected the lower jaw, arm, shoulder-blade, and digits of another skeleton. Minute search for further remains only yielded a small fragment of skull; of the long bones of the legs there was not a trace. These remains belonged to an individual, probably masculine, of much more robust build and a different physical type to the young woman. Professor Robinson has kindly examined the bones and given the appended report. This naturally throws no light on their age. The orientation of the intact skeleton is, however, in favour of a pre-Christian date, for it agrees with that prevailing in Viking graves both in this country and in Norway.¹

RELICS FOUND IN 1930.

Celts.—Four were found in 1930, three in the early Hut 10 and one just under the turf on the top of the north wall of passage A east of Hut 3. The last-named, an unmistakable axe of camptonite, is



Fig. 17. Antler mount for celt. (1.)



Fig. 18. Grooved hammer-stone. (1.)

only roughly smoothed, and is battered on the sides and on one face near the butt. Its length is 2·70 inches. The celts from Hut 10 are more finely polished but smaller, the only complete specimen measuring 1·90 inch in length. They must have been mounted in stag's horn hafts like that found in Hut 9. In all the small sides have been squared, giving a rectangular cross-section; two have been reground near the edges but not repolished, so that coarse striae are visible. Though the two faces are not absolutely symmetrical about the major axis, all could be used as axes or as adzes.

Mounts.—The stag's horn haft shown in fig. 17 was found in Hut 9. It is made from a segment of antler sawn off at either end. The spongy interior has been hollowed out from the wider end for a distance of 1½ inch to make a socket for the stone celt, and a hole, ¾ inch in diameter,

¹ Brygger, *Den norske Bosetningen på Shetland-Orknøydene*, p. 240.

has been pierced $\frac{3}{4}$ inch further up to make room for the shaft. The socket is 1.15 inch wide in the direction of the shaft hole and 1.75 inch long at right angles thereto, so that a celt hafted in it would be an adze not an axe. One side of the haft has been rubbed smooth. This type of haft must be distinguished both from the unperforated stag's horn hafts so common in the Swiss lake-dwellings and from the perforated type in which the base of the antler is retained. Our type is comparatively rare. There are indeed numerous specimens from Maglemose stations in Zealand, where they seem to have been used exclusively for

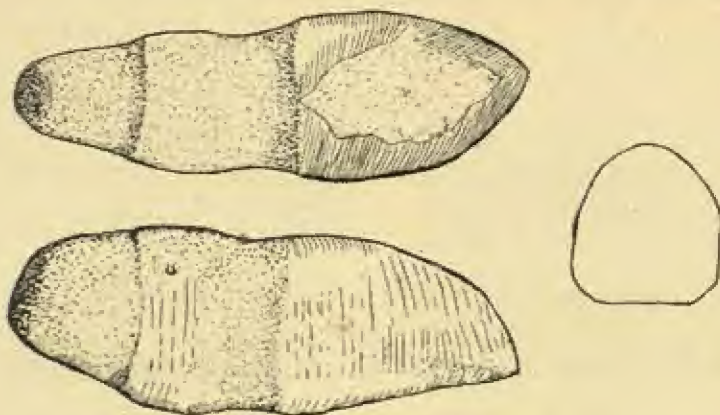


Fig. 19. Beaked tool with hafting groove. (4.)

mounting adzes.¹ In the Neolithic cultures of Denmark the type is unrepresented, but it persisted into the New Stone Age in the "flint culture" of Belgium and North France,² where also crescentic ornaments of boar's tusk, like that found at Skara Brae in 1928, abound.

Hafting grooves, formed by pecking on the sides of the implement, are illustrated by an adze found at Skara Brae in 1929. The device is quite widespread, but is particularly common in the forest cultures of Northern Europe.³ It was applied to two other implements found in the 1930 operations. One, an ellipsoid hammer of camptonite found in Hut 9, is encircled with a very distinct groove. A second groove, meeting the first at right angles but not crossing it, runs round the butt along the implement's major axis (fig. 18). Here we clearly have a variant of the grooved hammer-stones associated with the earliest metal-using

¹ *Mem. Soc. Ant. Nord.*, 1919, p. 290.

² Loë, *Belgique ancienne* (Musées du cinquantenaire), figs. 50, 68, 85; de Baye, *L'Archéologie préhistorique*, fig. 3 (1); Dechelette, *Manuel*, i. fig. 191 (2). In Switzerland the type is exceptional; a specimen is figured by Schenk, *La suisse préhistorique*, Pl. vii, 2.

³ *E.g.* Montelius, *Minnen*, pp. 244-250.

cultures in Europe and Hither Asia,¹ but also common in a purely Neolithic context in Northern Europe.²

The same method of hafting has been adopted on the beaked tool shown in fig. 19, found in the thin midden deposit, lying on sand flush with the top of wall *d* between that and wall *c*. It has been shaped by battering and grinding at the point. The hæmatite implement (fig. 20) possesses much the same peculiar shape, but lacks the shaft-



Fig. 20. Beaked tool of hæmatite. ($\frac{1}{2}$.)

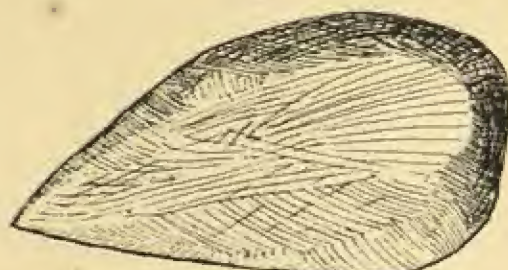


Fig. 21. Pear-shaped implement of flagstone. ($\frac{3}{4}$.)

grooves. It shows the striae and faceting seen on the nodules of the iron ore found elsewhere in the midden, but is the only example of a definite implement shaped out of this material.

To the same family as the foregoing belongs the pear-shaped implement, roughly ground at its thinner end to form a narrow edge, found against the core-face of wall *c* near its junction with *b*. The tool (fig. 21) may have been originally a beach-pebble, but has been ground all over, even at the butt. The edge is abraded as if by use. All these implements belong to the same relatively late phase as those

¹ Childe, *Danube in Prehistory*, p. 240.

² Sophus Müller, *Ordning*, fig. 190; Montelius, *Minnen*, fig. 251; Gjessing, *Rogalands Sten-ålder*, fig. 147.

found in 1929 in what was then erroneously termed "the entry to Hut 9." All may really have been lying on the top of wall *d* and fallen in thence. Perhaps a workshop once existed upon the sand in this region comparable to that in Hut 8. In any case, we secured from it further the roughly shaped club (fig. 22). One face and the top edge are smooth, perhaps natural surfaces, while the shaping has been done by chipping. No doubt the tool was to have been a hatchet like that shown in fig. 25, 3, of the 1929 report.

A spiked object reminiscent of the famous carved stone balls was found this year on the floor of Hut 9, and is thereby dated to our period II. It was not, however, a true ball, though its exact shape is uncertain. One side, which we may call the base, is smooth and flat;



Fig. 22. Flagstone club.



Fig. 23. Flake knife with ground edge. (5.)

on top there were two prominent spikes, and two smaller ones stood out on either side. There may have been one or two less prominent projections behind the topmost pair of spikes. The projections have been formed by pecking out the intervening spaces. In shape the object approximates to one found in the bed of Hut 2 during 1929.

On the floor-level of Hut 10, but just outside the assumed line of its walls, was found the remarkable polished knife shown in fig. 23. The wide edge, which is continued a short distance along the two sides, has been sharpened by grinding, while the narrow butt has been slightly flattened by rubbing. One side bears, as shown in the illustration, a scratched geometrical pattern similar to those observed on many stones. A comparison with the "Picts' knives" of Shetland is obvious, but in shape and size our implement really resembles the polished flint knives of the Early Bronze Age far more closely.¹

¹ On these, see G. Clark in *Proc. Prehist. Soc. East Anglia*, vol. vi. pp. 41 ff.

Finally, the extraordinary object shown in fig. 24 was found in Hut 4. It is a roughly triangular slab of sandy flagstone with a serrated edge.



Fig. 24. Slab of flagstone with serrated edge.

At its thickest the slab is 90 inches (185 mm.) thick, but towards the apex of the triangle and along one side a substantial layer has scaled off the face not shown in the photograph. Still, even the "teeth" are in two cases over 50 inches thick, so that the implement cannot have been a saw. It may have been originally roughed out by chipping, but the teeth have been pecked out.

Bone Implements.—Of bone tools of types already described we collected the following in 1930:—

A1	.	.	118	B6b	.	.	2
A2	.	.	9	C1	.	.	9
B3	.	.	11	C2	.	.	8

Of type A1 no less than nine examples were of the large form made from the metapodials of deer or small ox. Two quite typical specimens made from ovid metapodials showed a small eyelet bored through the head, which was, as usual, the posterior articulation. In the lower midden and huts of period II we found four or five stout implements, varying in length from $3\frac{1}{4}$ inches to $5\frac{1}{4}$ inches, made, like A1, from large marrow-bones split longitudinally and rubbed to taper to a point, in which the articulating surface had been rubbed away altogether. They are so finely polished as to resemble ivory, but that the concavity, representing the marrow cavity, is visible.

Only one specimen of A2 conformed to the normal form made from an ovid metapodial; five seem to be made from radii of the same beast.

One large pin with a flat paddle-shaped head, perforated, was found on the disturbed midden surface east of Hut 3. It approximates in form to the well-known specimens in the Skaill collection (*Proceedings*, vol. vii. Pl. xlii. 16), and seems to belong to the same stratigraphical context.

Several imperfect examples of type A4 were found this year, two from the floor of Hut 10 and one from 9, one just over the floor-level of Hut 9, and a fourth in the second layer of midden from the top against wall Q. In only one is the bulb pierced. The specimens with unpierced bulb remind one still more strongly of the well-known implement

from the chambered cairn of Quoyness, but even these have a more definite conical head. The material in all cases seems to have been some sort of "ivory," perhaps narwhal tusk.

C3 is a new type of heavy tool, a chisel made from the proximal end of the metapodial of a small bovid, cut off obliquely as in type C1 but unperforated. It was found in the midden packing behind wall Q.

Flint and Chert.—Small cores, rough flakes, and disc-scrapers of flint or chert were again comparatively common, particularly on the floor



1

Fig. 25. Pot sherds of class A. (f.)

2

of Hut 10. From the black midden in pit IV came a short knife trimmed on one face along both edges.

Pottery.—It is now possible to distinguish three classes of pottery according to the decorative techniques employed. From the point of view of manufacture, however, all classes exhibit the peculiarities already noticed in previous reports—presence of large pieces of grit in the paste, building up in rings, and poor firing.

In class A the ornament is formed exclusively of applied strips or pellets of clay, somewhat finer in texture than that used for the body of the pot. The edges of the applied pieces have been smoothed down

while wet, so that the finer clay has been spread over the vase surface in their immediate vicinity. The pot as a whole, however, is not covered with a slip, though it has been sufficiently smoothed to remove from the immediate surface most gritty projections. This fabric is common to all periods.

A sub-class (A2) may be distinguished by the fact that the finer clay is spread over a large part of the decorated vase surface as a slip. It



Fig. 26. Sherd of class B2 found in midden south of Hut 7. (Jca.)

is confined to period II (and probably I). The big pot from Hut 10, shown in fig. 25, 1, is a good example.

In sub-group A 1*b* (or A 2*b*) the applied pellets have been embellished by pressure from the finger so as to produce a round dimple in each (as in the Report for 1929, fig. 28, 2). That sherd belongs to period III, but an exact parallel was found on the floor of Hut 9 of period II.

Class B.—Here the main decorative element is still constituted by applied strips as in class A; but the strips are now embellished by incisions or impressions. This procedure is not traceable later than period II. Three cases may be distinguished: (1) A shallow groove is

drawn along the surface of the strips bisecting them longitudinally (fig. 27, 1). In some cases one might think one was dealing with two distinct strips, until one observes that the groove does not reach the

1

2



3

4

Fig. 27. Sherds of classes B and C. (q.)

bottom of the strip. (2) Incisions are also made at right angles to the bisecting groove (fig. 26). (3) The strip is relieved by dots or dashes (fig. 27, 1).

Class C. Incised Ware.—The decorated surface is covered with a thick slip of fine clay. The relatively shallow incisions are made in this slip

and do not cut into the underlying coarser body-clay. Tests have shown that the incisions could be made with the larger sizes of bone tools of class A1, and the dots and dashes, which are combined with the incisions, can be produced by jabbing a similar implement vertically or obliquely into the slip. In 1929 one sherd of this ware was found on the sand filling Hut 6' (fig. 27, 3); the examples collected in 1930 came exclusively from the levels of period II. It is therefore characteristic of that and presumably the preceding periods.

Patterns.—The designs on the later wares of class A are already familiar. I may remark that a sherd decorated with horizontal ribs, though recovered from the floor-level of Hut 10, is identical with one seen in 1928 on the floor of Hut 7. A big pot, a fragment of which is shown in fig. 25, 1, was lying on the floor of Hut 10. It was decorated with zones of bosses alternating with raised ribs very much in the style of the encrusted urn shown in Abereromby, *Bronze Age Pottery*, vol. ii. No. 554. The exact resemblance is best seen when the actual sherds are set side by side with the urn. The small bowl to which the sherd of fig. 27, 1, belongs was adorned with festoons of pitted ridges alternating with equally curved grooved ridges. Finally, a great vessel, found beneath the floor of Hut 10, was covered with strips and blobs combined to form some elaborate curvilinear pattern. From the scanty material available it looks as if the more elaborate patterns belonged mainly to period II and were going out of fashion in period III.

The incised patterns, on the other hand, are in general simpler; but the sherd shown in fig. 27, 2, is the most ornate found at the site. It was discovered just outside the cell of Hut 10 on the level of the hut floor in a deposit indubitably belonging to period II. Enough survives to demonstrate beyond all possibility of doubt that the pattern included a true spiral. It is the only instance of a genuine spiral, incised on pottery, from the British Isles, or indeed from north-western Europe as a whole; the scroll patterns of the La Tène pottery of the Glastonbury type¹ and on corresponding Continental vases² are really quite different. True spirals are, of course, common on the Neolithic pottery of south-eastern and central Europe, and, in a debased form, spread as far north as the provinces of Liège in Belgium and Nord Brabant in Holland³ in company with the "Danubian peasants." Connections in this direction do not, however, seem at all likely. On the other hand, the motive was being freely used by the sculptor in the British Isles, and even Scotland itself, both in the Bronze Age and in Early Christian

¹ Bulleid and Gray, *The Glastonbury Lake Village*, vol. ii. p. 510.

² E.g. *B.M. Iron Age Guide*, Pl. vi.

³ Childe, *Danube in Prehistory*, p. 58.

times.¹ The question is whether our example should be connected with the Bronze Age series, best illustrated at New Grange in Ireland, or with the art of the stone crosses and illuminated manuscripts.² Neither group offers any exact parallel to our pattern in which the spirals are employed to fill two opposing quadrants of some geometrical figure and alternate with a dotted lozenge or triangle. The use of the motive on carved stone balls from eastern Scotland is more analogous, but this only confirms the connection of such relics with the Skara Brae culture, and throws no direct light on the latter's age.³

Forms.—As before, it was impossible to reconstruct any vessel. The small beaker-like pot (fig. 28) is the most perfect vase collected at the site. It was found near the top of a wall of period I and well below the floor-level of Hut 4 (period II) in test-pit IV. The clay is unusually fine, and fired to a reddish-orange colour. The marked splay of the base (as in other vessels from the site) is due to the spreading of the flat clay disk that formed the original pot bottom as the rings forming the walls were being added. The feature is noticeable on food-vessels and cinerary urns of the Bronze Age as well as on Iron Age vases.



Fig. 28. Small pot from black midden in pit IV. (3.)

The rim, on the other hand, is never everted or splayed out, as on Iron Age pottery, but, as in Bronze Age food-vessels and cinerary urns, is often bevelled or stepped on the inside, perhaps to provide a ledge for the slate lid. If the sections given in fig. 29 be compared with the rims of cinerary urns in the Society's collections, the agreement will be seen to be striking. Crinkled rims were noted in 1928, and are illustrated by a new specimen found this year in a late deposit south-east of passage A. From the same region came an odd variant on the plan—stumpy strips of clay have been stuck on obliquely astride the rim, fitting into one another like mortice and tenon joints.

Ornaments.—No beads were found in the huts of period II, but some nine in all were collected from the top midden between passages

¹ Romilly Allen, *Early Christian Monuments*, pp. 334 ff.

² *Ibid.*, pp. 385 ff.

³ Cf., however, *Proc. Roy. Soc. Edin.* (1929-30), vol. L, p. 73.

A and F and south of Hut 5. A long bead corresponding to Beck's type IV D 1b with a hole through one flat face at right angles to the main axial perforation is the only form calling for special mention. It might be compared with the late Bronze Age type, found with cinerary urns in Old Kilpatrick parish, Dumbartonshire.¹

Idol.—The slate object shown in fig. 30 is perhaps best regarded as a very summary representation of a human figure with the arms and legs



Fig. 20. Sections of rims and bases. (1.)

spread out. Mr Callander has identified the fragment of a similar object among the relics from the site formerly preserved at Skaill House.

Wood.—The discovery of pieces of wood (apparently unworked) and other vegetable matter in the damp, black, peaty layer in pit IV was one of the surprises of the season. By the courtesy of the Regius Keeper the material was examined by Mr M. Y. Orr of the Royal Botanic Garden, Edinburgh. He has identified three specimens as belonging to the alder (*Alnus glutinosa*) and two to hazel (*Coryllus avellana*).

¹ *Proceedings*, vol. lvii. p. 156, fig. 15, 11.

With these were remains of a moss, a species of *Hylocomium*. A small piece of wood, identified by Mr Orr as birch (*Betula alba*), was found in the slush on the impervious clay floor of Hut 9 close to its door.

Finally, a piece of wood, looking fresher than the others, was found in the sand right on the basal clay at the bottom of pit 1. It turns out on examination to be spruce (*Picea excelsis*), a tree which does not, and probably never did, grow wild nearer than Norway. The fresh appearance of the specimen raises doubts as to its antiquity. Yet the deposit covering it was quite certainly intact. On the other hand, the pit was



Fig. 30. Slate object. (5.)

sunk only 16 feet from the face of the modern sea-wall, and it is possible that the specimen worked in laterally through the sand in which it was embedded. Otherwise it must be regarded as a piece of drift-wood or a fragment of a boat or its fittings that reached this corner of the Bay of Skail before the foundation of the village.

Age of the Site.—Beyond establishing the cultural homogeneity of all levels at Skara Brae the operations of 1930 failed to yield any fresh or conclusive evidence of its age. The discovery of an antler celt-haft of a specialised type, confined to Neolithic levels on the Continent, combined with the increased number of well-polished stone celts, reinforces the case for a high dating advanced in my paper to the Royal Society of Edinburgh in 1929. On the other hand, Mr Callander (*infra*, pp. 103 ff.)

has adduced several points of agreement between the cultures of Skara Brae and of Scottish Iron Age sites in addition to those already noted by me in the aforesaid paper (it should be remarked that two of the traits stressed by him, pot-lids and polished lumps of hæmatite, are traceable already in Skara Brae II.). It remains true that our culture is, as a whole, different from that of the brochs and earth-houses, and preserves archaic traditions, notably in the pottery, that did not survive in them.

The agreements may accordingly mean either that the Iron Age culture took over certain elements from an earlier one, exemplified at Skara Brae, or that the builders of Skara Brae borrowed from the broch people.

In presenting this final Report I should like once again to express to His Majesty's Commissioners of Works my thanks for permitting me to be present during their conservation work as the representative of the Society. We have not only to congratulate the Office of Works upon the success of their operations on this as on other sites, but in particular to record the debt that archaeology owes to the contractor, Mr J. Firth, and his staff for the manner in which they have carried out the difficult work on the site. To my colleague, Mr J. Houston of the Office of Works, the Society is indebted for the admirable plans that illustrate this as former reports, and I personally for an immense amount of assistance in the field.

It may at the same time be of interest to inform Fellows of the Society of the actual condition in which the site was when I left it, and of the arrangements made or suggested for its arrangement, though neither I nor the Society have any responsibility nor claim to credit therefor.

In the final laying out of the site the ideal would be to reproduce as closely as possible its appearance at that period in its history at which the best-preserved structures, Huts 1-5 and 7-8, the connecting passages, and the Market Place, were alike in use (*i.e.* period IV). But for the conservation of passages B and C and for the exposure of the period II huts a large slice of the midden mound which then sloped up to the walls of 4 and 5 and filled the space between passages A and C had to be removed. The exposure of the early huts undoubtedly renders the site more instructive, so that the filling in of the sections cannot be thought of. But in picturing the site the visitor must fill them in with the mind's eye. To facilitate this the whole block of original midden between 7, B, A, and F has been left intact as well as that south of Huts 9 and 10. To emphasise the secondary nature of the gaps intervening between these original surfaces and Huts 4 and 5 and passage A the turf facings of the cuts have been kept as steep as possible. Mr Houston has made the happy suggestion of leaving narrow windows

of tale in these banks to reveal the stratification of the midden deposit in clean-cut sections. To render drain D accessible to visitors and students while preserving its original character Mr Paterson, in 1929, designed a concrete hatch with rungs in its walls. The plan has worked admirably, and access to this interesting feature is much appreciated by visitors. It is proposed to apply the same idea to the newly found sewer E, relaying its lintels (which were numbered and photographed before removal) beneath concrete rafts.

Turf having been adopted as a substitute and preservative for the original midden surface over passages A, B, and C, and the intervening areas, some different treatment was needed for the more or less open spaces south-west of passage F. Here sea-gravel has successfully been used in place of turf, emphasising the distinct nature of this area at our period. Since the huts with some sort of roof originally projected above the midden surface, no objection could be taken on historical grounds to some sort of roof emerging from the turf that replaces the midden. The village being unique in the British Isles, and indeed north of the Alps, quite exceptional measures should be taken to preserve it in perpetuity. Having regard to the bad weathering qualities of the Caithness flagstones of which the village is built, Mr Richardson suggested, even in 1929, roofing the site in, a plan which also suggested itself to the First Commissioner on his visit in the same year. Reluctant though I should be to see the site disfigured in any way, observation of the walls of Hut 7 through three successive years has convinced me that a roof for this building, the most perfect prehistoric structure of a purely domestic character in Europe, is essential.

In the sixties Mr Watt undertook a good deal of doubtless necessary reconstruction in the areas excavated by him. In particular, he rebuilt almost completely and with substantial divergences from its original plan the north wall of Hut 1. The modern sections are, however, now quite indistinguishable from the original work, and cause considerable confusion to students visiting the site. A trifling amount of rebuilding has also been necessary to consolidate walls cleared by the Department, and I have frequently been asked whether a given bit of walling were original or not. Mr Paterson suggested marking off such modern work with metal tape. The idea, having been approved by Mr Richardson, has been very successfully adopted. Thanks to the water-colour by Mr Cairns, engraved as Plate xxix. in *Proceedings*, vol. vii., it has been even possible to give a rough indication of the extent of reconstruction in Hut 1. Some details in Huts 4 and 5 will, however, always remain uncertain. Lead tape is also being effectively employed to mark the lines of structures now filled in, such as the sump under Hut 5, called 5' last year.

REPORT ON SELECTED ANIMAL BONES.

By Professor D. M. S. WATSON, F.R.S., Professor of Zoology in
University College, London.

The bones from Skara Brae sent to me are almost exclusively the remains of animals which have been used for food. The most abundant are those of oxen; sheep are very common, pig rare, and red deer is represented by very few bones but by several incomplete antlers. There are three bird bones and several of rabbit, but the latter are fresh-looking and probably intrusive.

The numerous horn-cores and fragmentary skulls of cattle fall into three groups: one, well-defined, clearly bulls, the others cows, and probably bullocks.

The great mass of these bones are of young animals; of fourteen reasonably complete lower jaws, twelve still retained the last milk molars and some were of quite young calves. This is an exaggeration of a condition commonly found in prehistoric sites, and depends on the habit of slaughtering a considerable proportion of a herd at the beginning of winter because of the difficulty of storing sufficient food to maintain them until the new growth in the spring.

All the skull fragments, which are sufficiently complete to give evidence, show a great hole in the middle of the forehead, and many of them retain fragments of the outer table driven inward around the hole. It therefore appears that cattle were slaughtered by a very heavy blow on the forehead.

All the cattle bones may well have belonged to animals of one breed; they are large, with massive bones presenting a small range in size only.

The most remarkable feature of the cattle is the presence among them of what there is good reason to regard as castrated males. I do not remember any similar occurrence among prehistoric peoples. The animals belong to a long-horned race differing from all English Neolithic, Early Iron Age, and Roman cattle I know. They are of course clearly domesticated.

The sheep skulls possess heavy horn-cores, widely diverging and much curved. It is impossible to say whether both sexes were horned or not. The limb bones are very long and slender.

Pig is best represented by a young skull, completely of the wild type of *Sus scrofa*. It is, however, quite impossible to say whether it was actually wild or domesticated.

FINAL REPORT ON THE OPERATIONS AT SKARA BRAE. 75

Red deer is represented by four shed antlers, and two which have been broken from skulls. No horn is unusually large; the biggest, though they would be regarded as good heads in the West Highlands, might well be paralleled there to-day.

It is impossible for me to give any idea of the age of these animals from their characteristics. Certain features, the abundance of sheep and the presence of castrated oxen, suggest a period later than Bronze Age times, but it is impossible to show that some of them may not depend on local peculiarities.

REPORT ON HUMAN REMAINS. By Professor A. ROBINSON, M.D., F.R.C.S.

SPECIMEN No. I.—FACTS.

(1) The bones are complete with the exception of the xiphoid process of the sternum and the upper two lumbar vertebrae, of which only portions remain; and the right fibula, of which only part remains.

(2) The bones are all female in type. There are presacral sulci in the ilia. The muscular impressions are slight, with the exception of those attributable to the gluteus maximus on each side; the strength of that muscle is indicated by a very marked gluteal tuberosity on the femur and a correspondingly strongly marked gluteus maximus area on the ilium. The anterior intertrochanteric lines of the femora are very indefinite. There are no marks of antemortem injury or disease on the bones.

(3) The bones of the hands and feet are small, and the metacarpals, metatarsals and phalanges are slender.

(4) Measurements of the main limb bones:—

Clavicle, length—R. 129.3 mm.; L. 126.2 mm.

Scapula, length, 143.5 mm.; breadth, 93.0 mm.

Humerus, length—R. 297 mm.; L. 291 mm.

Radius, length—R. 217 mm.; L. 215.5 mm.

Ulna, length—R. 241 mm.; L. 237 mm.

Pelvis, ischio-iliac height 193 mm.; inter-iliac breadth 257 mm.

Pelvic brim, sagittal diameter, 119 mm.; transverse diameter, 127 mm.

Femur, length—R. 415 mm.; L. 411 mm.

Tibia, length—R. 317 mm.; L. 316 mm.

Fibula, length—L. 315 mm.

Indices of limb bones:—

Right humero-radial, 73.0.

Left humero-radial, 74.0.

Right humero-femoral, 71.5.

Left humero-femoral, 70.8.

Right femoro-tibial, 76.3.
 Left femoro-tibial, 76.8.
 Right inter-membral, 83.8.
 Right upper platymeric, 75.5.
 Right platyknic, 76.0.
 Pelvic, 75.1.
 Pelvic brim, 93.7.

Stature, calculated from long bones, 5 feet 3 inches to 5 feet 4 inches.

Skull.

(5) The skull is phænozygous, due to the relatively small transverse frontal measurement, for the bizygomatic width is not great; but although the transverse frontal width is not great, there is marked relative prominence on each side immediately anterior to the pterion, that is, the region of the speech area.

Sutural Bones.

There are a large sutural bone in the right half of the lambdoid suture, a small left asterion bone, and a large right epipterion bone.

The posterior end of the sagittal suture is closed externally.

Measurements.

(6) The capacity of the cranium, measured with shot, is 1260 c.c.

(7) Basi-nasal length, 177.3 mm. } Length-breadth index, 74.7, that
 Greatest interparietal breadth, 132 mm. } is dolichocephalic.
 Basi-vertex height, at right angles to eye-ear plane, 125 mm. Height-length index, 70.5.

Upper facial length (nasion to prosthion), 68.4 mm.

Bizygomatic breadth, 125 mm. Upper facial index, 54.7.

Whole facial length (nasion to gnathion), 109 mm.

Whole facial index, 87.2.

Palato-maxillary breadth, 36.2 mm. }

Palato-maxillary length, 44.5 mm. } Palato-maxillary index 79.1.

Basi-nasal length, 93 mm. }

Basi-alveolar length, 93 mm. } Gnathic index, 100.

Naso-alveolar facial angle, 85.5°.

Dental-arch length (maxillary), 51 mm.

Dental-arch length (mandible), 46.8 mm.

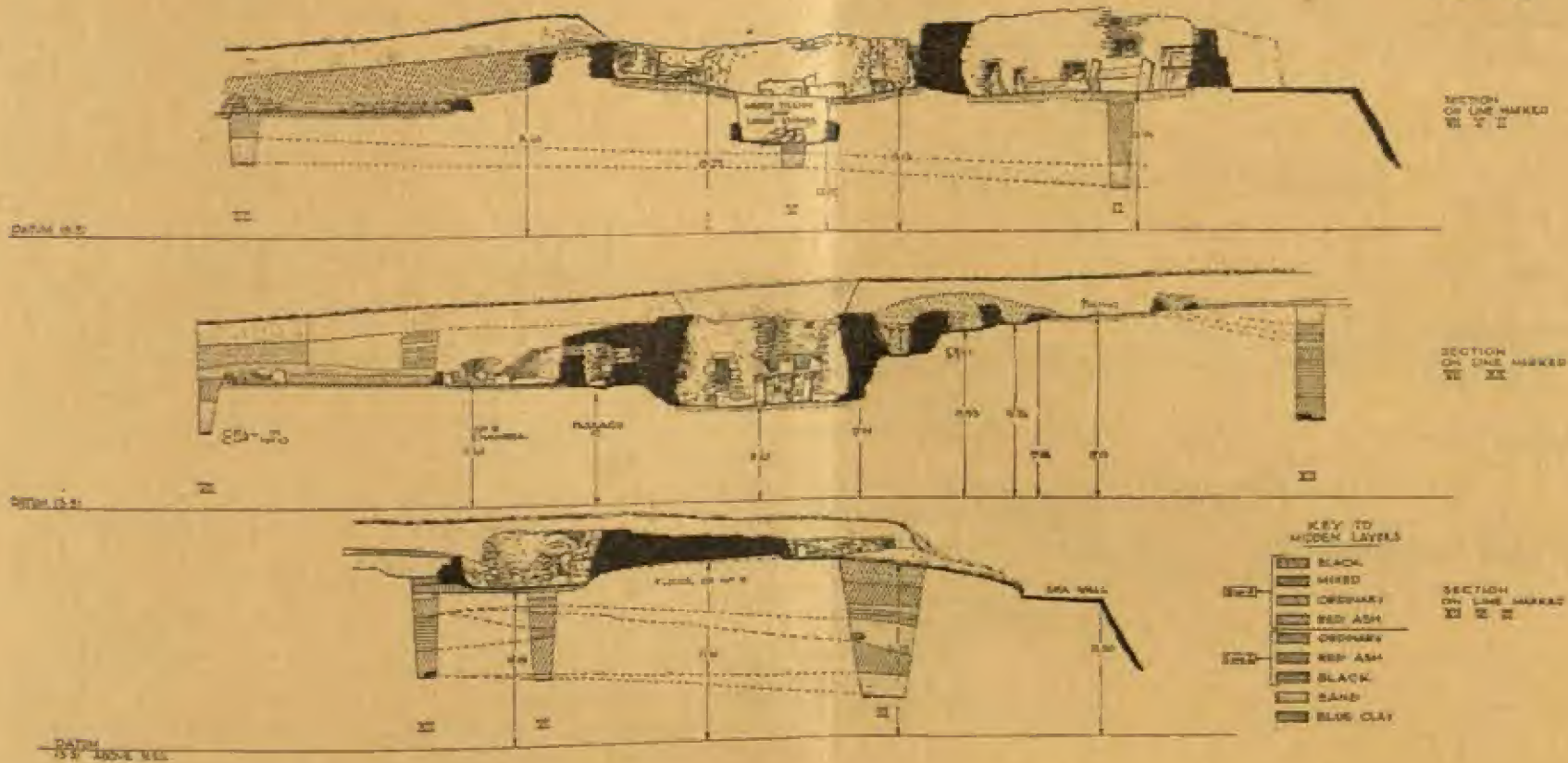
(8) All the teeth are present, but the 3rd right maxillary molar is very small, much smaller than the mandibular molars, and the 3rd left maxillary molar is a mere peg-shaped rudiment.

(9) The opposed surfaces of the molars of the maxilla and mandible are slightly more worn than those of the same teeth of present-day skulls.

The biting edges of the incisors are much more worn than the biting surfaces of the molars, in spite of the fact that the length of the dental arch of the

SECTIONS THROUGH VILLAGE

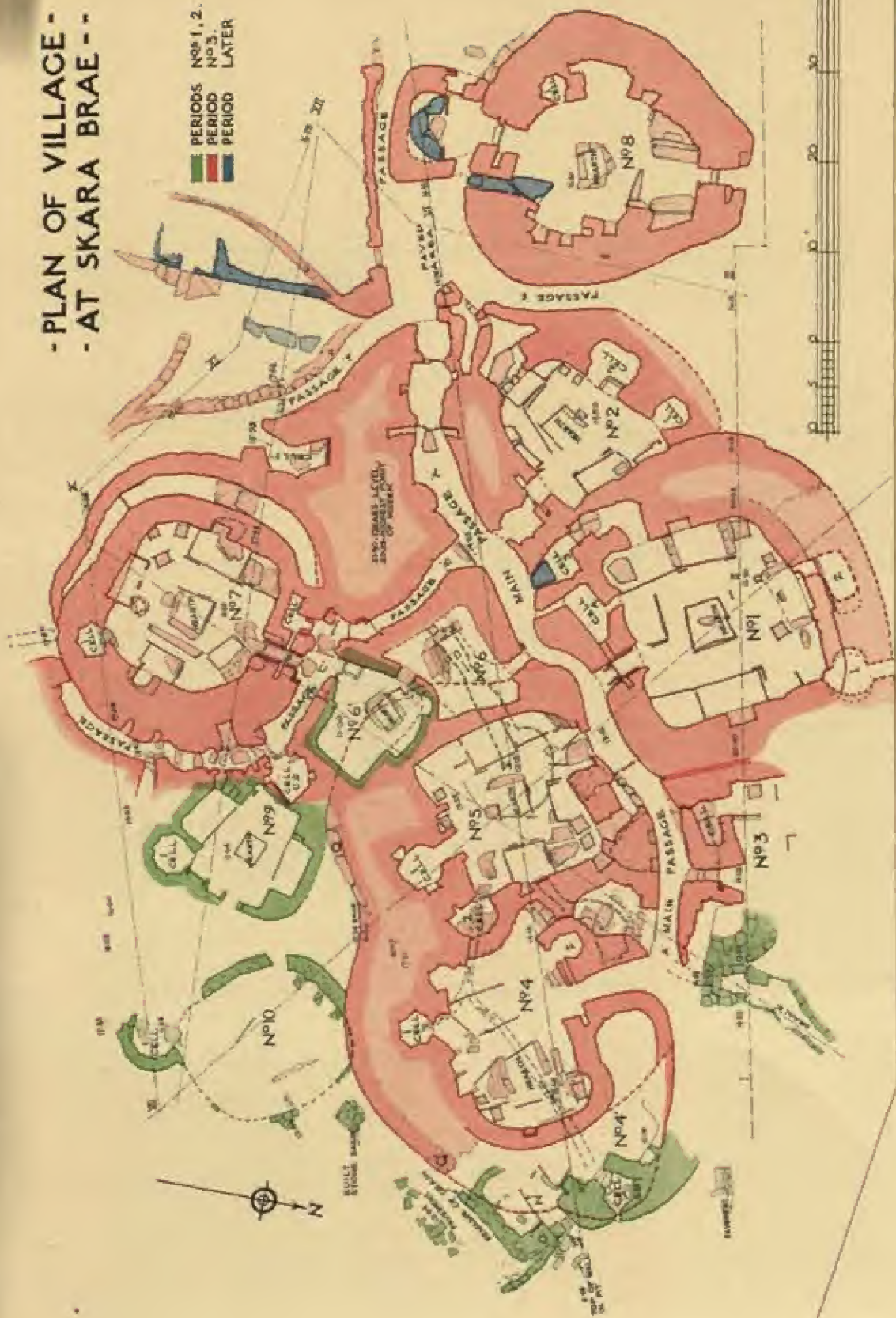
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HM OFFICE OF WORKS
ANCIENT MONUMENT DEPT
122 GEORGE STREET
EDINBURGH 1930

- PLAN OF VILLAGE - - AT SKARA BRAE -

PERIODS
 No 1, 2.
 PERIOD
 No 3.
 PERIOD
 LATER



0 10 20 30 40 FEET

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FINAL REPORT ON THE OPERATIONS AT SKARA BRAE. 77

mandible is more than 3 mm. shorter than the dental arch of the maxilla; therefore the mandible must have been frequently protruded and the edges of the mandibular incisors ground against those of the maxilla.

INFERENCES FROM FACTS.

The bones are those of a woman about 30-35 years old, of medium height (4) and of graceful form; she had delicate hands and feet. She was probably slightly embonpoint when she stood erect, which was not her usual position (2). She did little or no muscular work and took little physical exercise (2). She was probably right-handed (4).

Her food was not very coarse (9).

She was probably loquacious (5), accustomed to giving orders, and to seeing that they were obeyed (9).

Her skeleton gives no indication of the cause of her death.

SPECIMEN No. 2.

Parts of skeleton, probably male, not old, for the xiphoid process had not fused with the body of the sternum.

Piece of flat bone of cranium, probably parietal, very thick and mineralised.

Mandible, which had lost before death all teeth except the incisors, canines, 1st right premolar, 1st and 2nd left molars. The teeth still in the mandible are much worn, but not carious.

Atlas, axis, 6th cervical vertebra. An upper thoracic vertebra, probably the 5th.

One lumbar vertebra showing marked osteo-arthritis.

Manubrium and body of sternum.

Ribs, 2 right from middle of series, part of a right rib, middle series, with indications of osteo-arthritis, an 11th left rib.

A left 4th metacarpal bone.

A right scapula, with indications of osteo-arthritis.

A right radius, 228 mm.

A right ulna, 248 mm.

Calculated stature, 5 feet 8 inches.

II.

NOTES ON (1) CERTAIN PREHISTORIC RELICS FROM ORKNEY, AND
 (2) SKARA BRAE: ITS CULTURE AND ITS PERIOD. BY J.
 GRAHAM CALLANDER, F.S.A. SCOT., DIRECTOR OF THE NATIONAL
 MUSEUM OF ANTIQUITIES.

PREHISTORIC RELICS FROM ORKNEY.

For some time past the Orkney Islands have figured largely in our *Proceedings*, even without taking into consideration the important accounts of the Skara Brae excavations. Not only have prehistoric graves, earth-houses, and sculpturings of stone of peculiar forms been described, but relics of unusual types have been recorded. To anyone who has made a study of Scottish prehistoric implements and weapons, it is quite evident from the descriptions of these relics that types and varieties have been found in Orkney which have not been reported from other parts of the country. As I had an opportunity of examining some private collections during a recent visit to these islands, such differences were more forcibly impressed upon me. In these notes I propose to draw attention to certain objects that seem to be unique, to others which are variants of common Scottish types, and to some examples of a well-known class of relic which exhibit peculiar features. Of these, a few from the collection long preserved in Skaill House are without localities, as the catalogue which once existed has been mislaid, but it is more than probable that they were discovered, if not in the neighbourhood of the house, at least on Mainland, the largest island in the Orkneys. Nearly all the others came from the same island.

Flint and Chert Implements.—As the small collection of flint implements from Orkney in the National Museum has been considerably augmented during the last two years by the activities of Mr J. M. Corrie, and as I was able to secure a good many more during my recent visit, we have now what may be considered a fairly good representative selection of these objects. Though their number cannot be considered large, they give quite a good idea of the types fashioned and used in these northern islands. The collection consists of seventy arrow-heads, nearly ninety scrapers, and about thirty other objects. There are also two complete axes and part of another. The whole appearance of the collection differs greatly from that of one from Morayshire, Aberdeenshire, Berwickshire, or Wigtownshire, the counties which have yielded

our greatest number of flint implements. The general form of the arrow-heads is different, the variety of implements is smaller, the quality of the flint is inferior, and its colour is unlike that found further south.

There are a good many small collections of flint implements in the farmhouses on the island of Mainland, but, so far as I could learn, attention seemed to have been concentrated chiefly on the search for arrow-heads. Two of the three largest collections which I saw—one from Appietown in the parish of Sandwick, about two miles west of the famous stone circle, the Ring of Brodgar, and the other from a farm near the extreme north-west of the island, in the parish of Birsay—contained very few implements other than these; the first included two barbed arrow-heads, fourteen of the leaf-shaped variety, seven being of the narrow, thick Orkney type referred to later, and one leaf-shaped specimen of black chert. The third collection, made by Mr Peter Irvine on his farm of Bookan, parish of Sandwick, contained every piece of flint which he saw, and therefore may be taken as a fair selection of the different types that may be met with in Orkney. There were six arrow-heads, all leaf-shaped, forty-two scrapers, two side scrapers, three knives, and six pointed tools, perhaps borers, the knives and borers being poorly made. There were no saws, drills, or so-called fabricators, neither were there arrow-heads of the hollow-based or lop-sided varieties.

Of the arrow-heads in the Museum, fifty-nine are leaf-shaped (figs. 1 to 3) and only eleven barbed and stemmed (figs. 1 and 3). Two of the leaf-shaped arrow-heads from Stenness are ground as well as flaked, a very rare occurrence in Scotland. In a collection of forty which I saw in Birsay there was only one barbed example, all the others being leaf-shaped. In smaller collections also the latter type predominated.

From these figures it is very evident that the proportion of barbed and stemmed arrow-heads to those of leaf-shape in an Orkney collection is very small. This is quite an interesting point, but if we examine them more closely we find that amongst the leaf-shaped examples there is a distinct variety which may be considered peculiar to Orkney—at least it occurs most sparingly indeed on the mainland of Scotland. This Orkney type is distinctly narrower and thicker than the normal leaf-shaped arrow-head (fig. 2). Some of these objects are nearly as thick as they are broad, and occasionally they are almost triangular in section. This type is no freak, as of the fifty-nine leaf-shaped examples in the National Collection, twenty-three—almost half—are of the narrow, thick variety. I think that the reason for making them of this shape, and also for the scarcity of barbed examples, was the poor quality of the flint available for their manufacture. Generally it was neither suitable for splitting into thin blades nor for fine flaking.

Instead of being of consistent shades of yellow, brown, and red like the flint from Aberdeenshire, much of that from Orkney shows mottled and jumbled colours, and is not of such a fine texture.

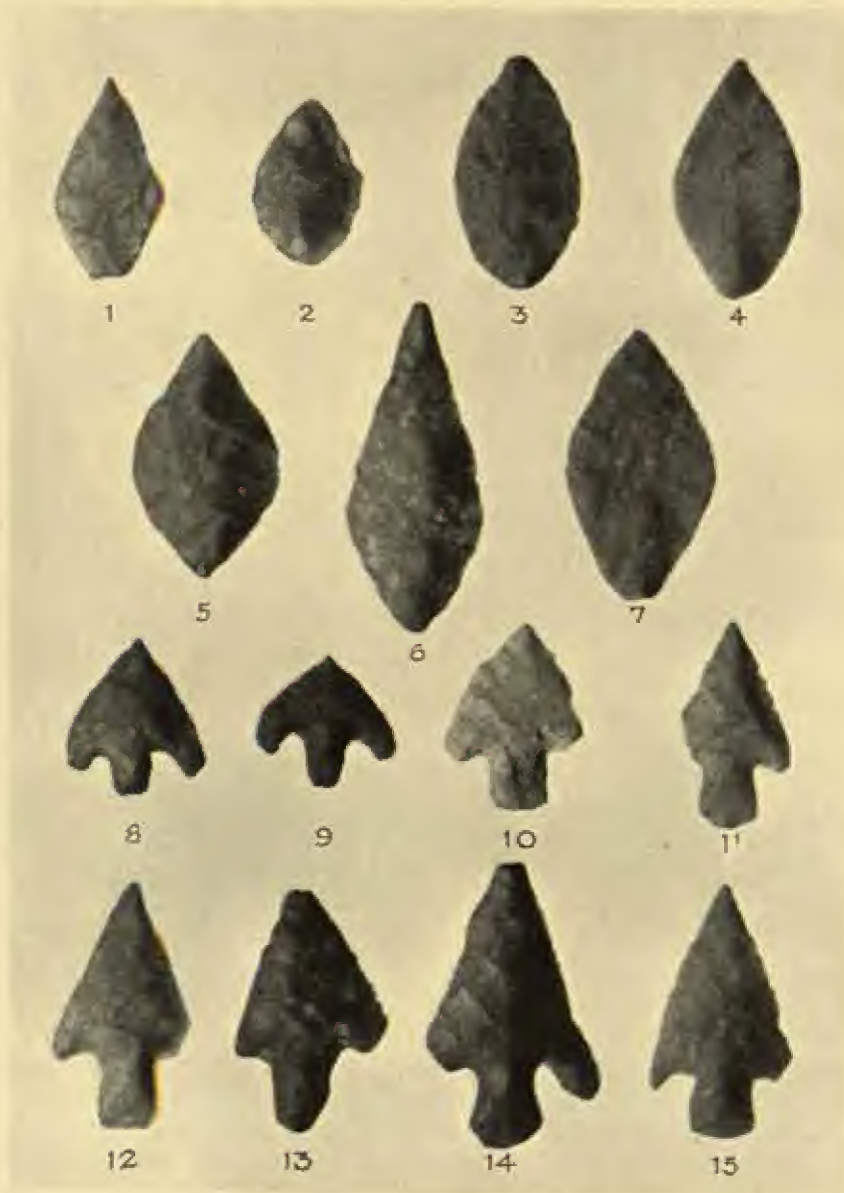


Fig. 1. Flint Arrow-heads from Orkney. (J.)

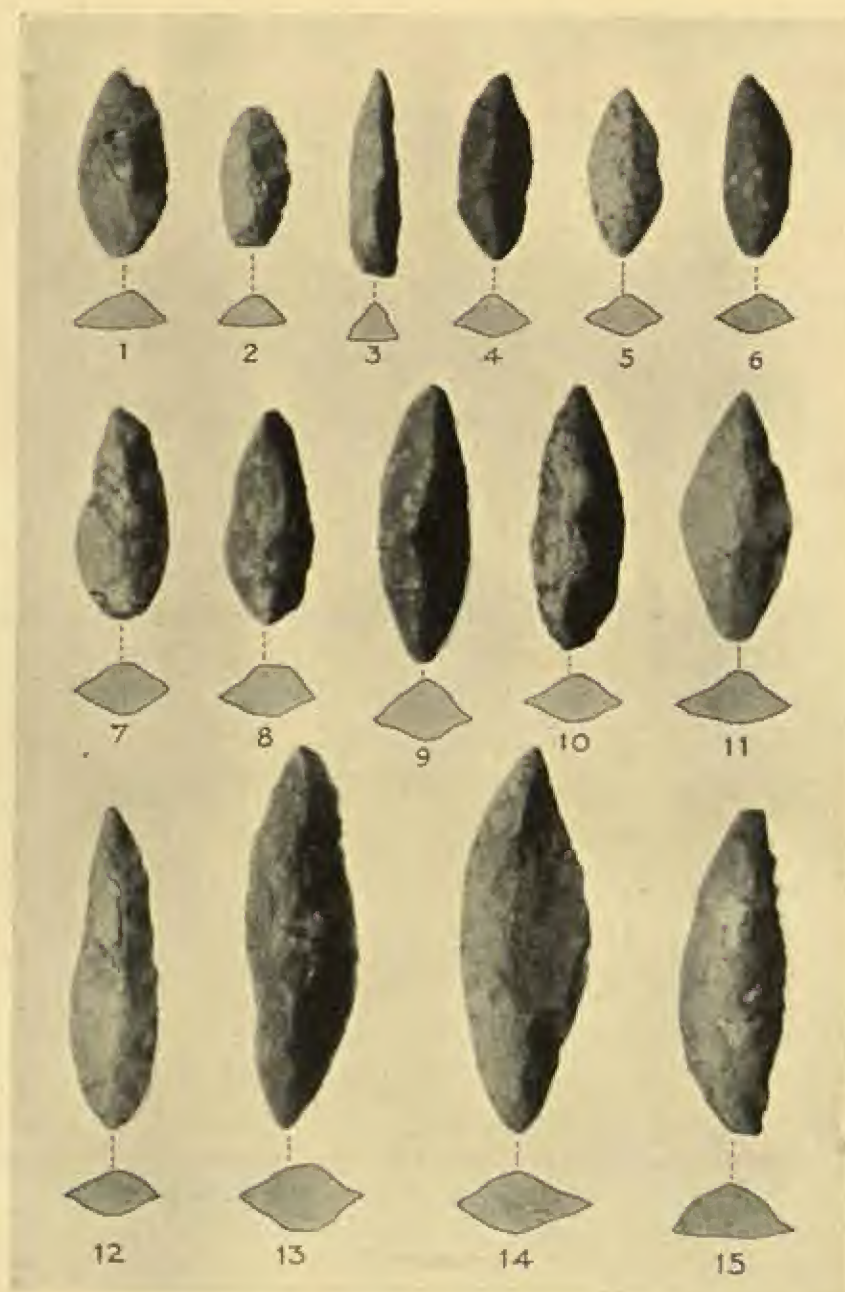


Fig. 2. Leaf-shaped Flint Arrow-heads, Orkney type. (f.)

Although the working on many of the implements is often coarse, it does not necessarily mean that the Orkney flint-smith was a poor craftsman, because on implements which are made from pieces of flint of fine quality the workmanship is often very good. The four leaf-shaped arrow-heads which were found with one of the barbed variety, a scraper, a knife with a ground edge, and a so-called fabricator in the chambered



Fig. 3. Flint Arrow-heads, calcined, from Unstan. (}.)



Fig. 4. Flint Fabricator, calcined, from Unstan. (}.)

cairn at Unstan, are still very fine examples, even though they are calcined like the other implements found with them (fig. 3). The fabricator (fig. 4) is a good specimen of this type of implement, and measures $3\frac{1}{2}$ inches in length and $\frac{3}{4}$ inch in breadth.

A beautifully flaked flint dagger, measuring $5\frac{5}{16}$ inches long, and about 2 inches broad at the widest part, was found while cutting peats in Blows Moss, South Ronaldsay, in 1888.

Scrapers on the average are coarser than those found further south (fig. 5), and it is seldom that large examples of other classes of implements occur. A knife tapering to a sharp point at each end, and curved lengthwise, which was turned up by the plough in the Sourin Valley, island

of Rousay, is now in the National Museum (fig. 6). Formed of a flake of greyish flint, with a pinkish tint in places, it is slightly convex on the

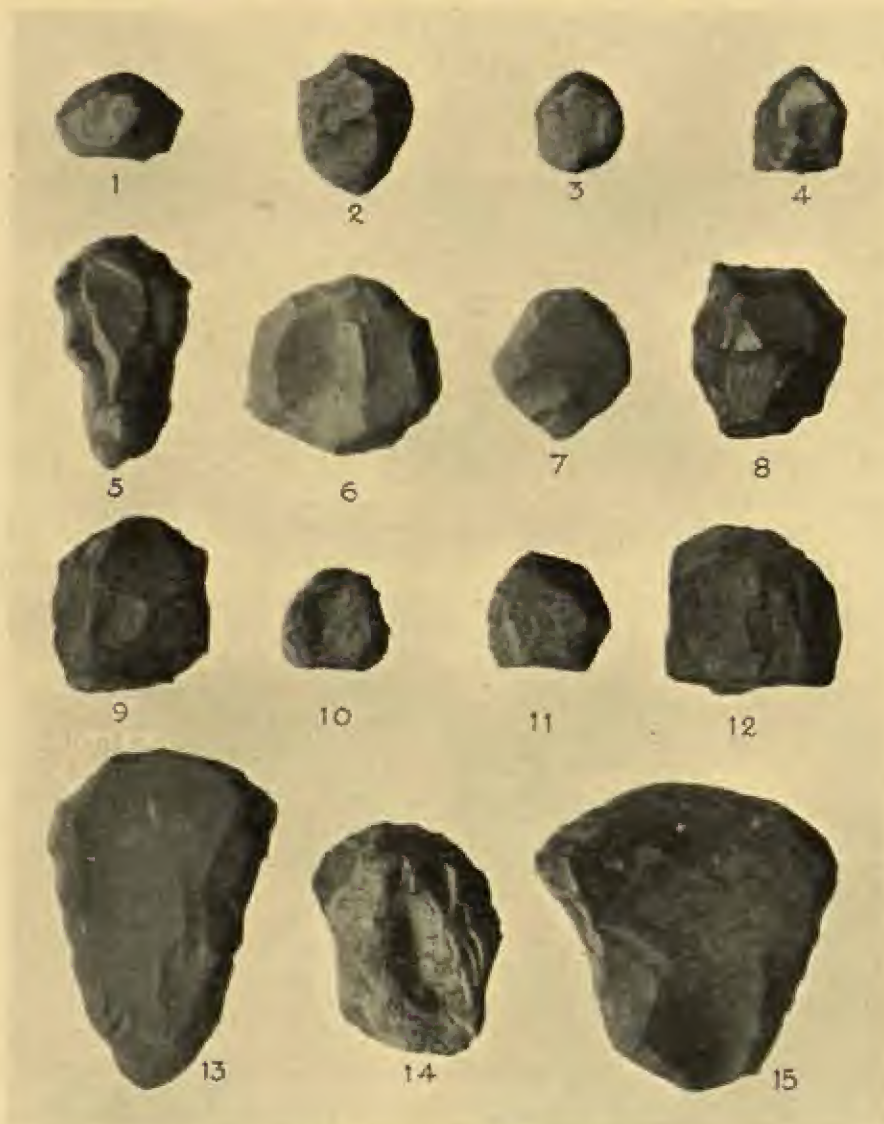


Fig. 5. Flint and Chert Scrapers from Orkney. (½.)

back, which is carefully flaked all over, as are the edges; the under side shows only the natural fracture. The knife measures $4\frac{1}{2}$ inches in length and 1 inch in greatest breadth. A selection of knives and pointed

implements are illustrated in fig. 7. A small pointed implement from the Hill of Heddle is ground on one side of the point.

Two implements of abnormal shape and size deserve to be noticed. The first (figs. 8 and 9), a roughly flaked implement with a sharp, beaked end, measuring $3\frac{3}{8}$ inches by $2\frac{1}{8}$ inches by 1 inch, was found at Upper Brough, Harray, while the other (fig. 10), of oval form and dressed along the sides and round one end, and measuring $3\frac{1}{8}$ inches by $2\frac{1}{8}$ inches by $\frac{1}{8}$ inch, came from Upper Linnabreck, Birsay. Both are of dark yellow flint.



Fig. 6. Flint Knife from Sourin Valley, Rousay.

In a part of the country where flint is scarce and of poor quality one hardly expects to find axes made of it, but nine examples from Orkney can be mentioned. One, a very beautiful, well-polished example of brownish colour, measuring 10 inches in length, $2\frac{7}{8}$ inches in breadth, and $\frac{1}{4}$ inch in thickness, was found at Folsetter, Birsay. Another of black and grey flint, measuring $3\frac{1}{4}$ inches in length, $1\frac{3}{8}$ inch in breadth, and $\frac{3}{4}$ inch in thickness, was found at Bain, Quoyloo, Sandwick; and the cutting edge of a third of grey flint at Smoogro. These axes are in the National Museum. Two small, finely polished examples of brown and yellow flint, measuring $3\frac{3}{8}$ inches by $1\frac{7}{8}$ inch by $\frac{1}{2}$ inch, and $2\frac{1}{2}$ inches by $1\frac{1}{4}$ inch by $\frac{3}{8}$ inch, respectively, were found in the first excavation at Skara Brae. A fragment of the cutting edge of an axe of mottled grey colour was also found there by Professor Childe, and I saw another of the same colour, from Appietown, parish of Sandwick, which measured $3\frac{3}{8}$ inches in length and $1\frac{1}{4}$ inch in breadth. Another axe, found on Queena, Birsay, is now said to be in a Glasgow collection, and one found on Eday is preserved in Carrick House in that island.

Polished or ground flint implements other than axes are by no means common in Scotland, but three in addition to the four Unstan, Stenness, and Hill of Heddle examples, already referred to, came under my notice in Orkney. One of mottled grey flint, of irregular oval form, and measuring $2\frac{1}{4}$ inches by $1\frac{3}{8}$ inch, was found at Appietown. One of yellow-grey colour, of more regular oval form than the last, and measuring $2\frac{1}{2}$ inches by $1\frac{3}{8}$ inch, came from Quoyer, Stenness; and part of another, more highly polished than the other two, was found in a field above the Mill Cottage, Broadhouse, Birsay. The last two are preserved in the Museum at Kirkwall.

A small fragment of a carefully ground hammer of mottled brown and yellow flint was found at Boekan, Sandwick.

Judging from the colour and quality of the flint of which the hammer and axes are made, it would seem that, with the exception of the first



Fig. 7. Flint Implements from Orkney. (1.)

described axe, which was perhaps imported, they probably were of local manufacture.

One of the most surprising discoveries during the excavations at Skara Brae was the identification of the site of a factory for making implements of black chert and flint.¹ Large numbers of flakes, chips, and cores, as

¹ *Proc. Soc. Ant. Scot.*, vol. lxiv. p. 178.

well as many scrapers chiefly made of chert, were found. I have no doubt that if scrapers and other tools had been as eagerly searched for in Orkney as arrow-heads, many more of this kind of stone would have been discovered. Four scrapers made of it were found at Bookan (fig. 5, Nos. 9 to 12), and the well-made lozenge-shaped arrow-head of the same material, already mentioned, at Appietown.



Figs. 8 and 9. Flint Implement from Upper Brough, Harray. (1.)

In the National Museum is an axe of grey chert, measuring $6\frac{1}{2}$ inches in length, $2\frac{1}{2}$ inches in breadth, and $\frac{7}{8}$ inch in thickness, from Stenness.

It may be mentioned that black and white cherts occur in clay-stone to the west of Stromness.

Neolithic Pottery from Taiverso Tuick.—Two years ago in my paper to the Society on "Scottish Neolithic Pottery" I hazarded the opinion that the urns found in the extraordinary two-storied chambered cairn at Taiverso Tuick, Island of Rousay, belonged to the Neolithic Period,¹

¹ *Proc. Soc. Ant. Scot.*, vol. lxxiii. p. 54.

although they had been described as cinerary urns of the Bronze Age.¹ My reason for this was that the ornamentation on the shards, as seen in the illustrations of them, was suggestive of the earlier period.² In the cairn, remains of burnt and unburnt human skeletons were found in addition to the pottery, and in the entrance passage to the burial chamber half of a stone hammer (fig. 17).

The surviving fragments of the Taiverso Tuick pottery have now been presented to the National Museum by Mr Walter G. Grant of Trumland, the owner of the ground on which the cairn is situated. Although all the pottery fragments are small, a most cursory examination of them shows that, instead of being parts of Bronze Age cinerary urns, they are pieces of round-bottomed vessels of the Neolithic Period, exhibiting a close resemblance to the pottery found in the chambered cairn at Unstan, in the adjacent island of Mainland. Not only are the upper parts of the wall of several of the vessels of the same shape, but the style of ornamentation on them is practically identical.

It may be recalled that the greater number of the Unstan urns were flat, round-bottomed bowls, with an almost vertical or slightly everted wall, and a more or less pronounced carination where it joined the rounded basal portion of the vessel. The upper part of the wall of these urns was generally decorated with alternately reversed triangles, filled with lines drawn parallel to one of the sides, these lines being formed sometimes by the steady pull of a sharp-pointed instrument, but more often by pressing the implement into the clay, dragging it back a short distance, and repeating the process, and thus forming the so-called stab-and-drag line. In addition there were fragments which had formed parts of plain,



Fig. 10. Flint Implement from Linnabreck, Orkney. (l.)

¹ *Proc. Soc. Ant. Scot.*, vol. xxxvii. p. 80.

² *Ibid.*, vol. xxxvii. p. 81, figs. 3 and 4.

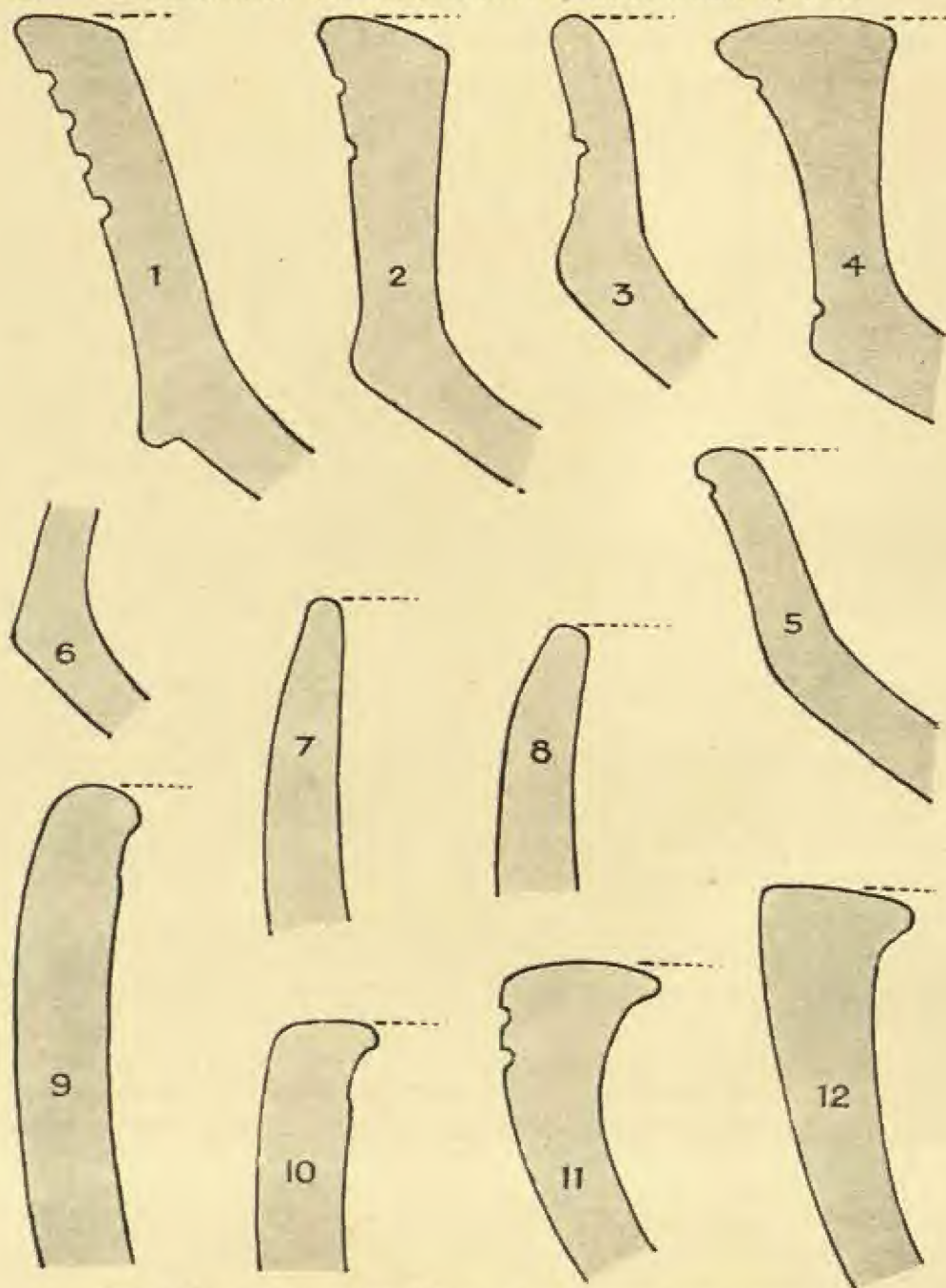


Fig. 11. Sections of Rims of Neolithic Urns from Talverso Tuick, Orkney. (†.)

unornamented vessels with an almost vertical wall and rounded base, and one piece which was decorated with finger-nail impressions.

Among the Taiverso Thick shards more than fourteen vessels are represented. Six have been of the flat, wide-mouthed, carinated variety (fig. 11, Nos. 1 to 6), of which two typical examples from Unstan are



Fig. 12. Neolithic Urn from Unstan.

illustrated in figs. 12 and 13. Two are wall fragments of different vessels, far too small to indicate their form, but showing undoubted Neolithic ornamentation (fig. 14, Nos. 5 and 6). One with an incurved rim (fig. 11, No. 11), and bearing stab-and-drag designs, has had a round bottom. The remaining five have been plain, unornamented vessels



Fig. 13. Neolithic Urn from Unstan.

with walls almost vertical in their upper parts (fig. 11, Nos. 7 to 10). Besides these there are several shards which seem to belong to other vessels, but they are too small to allow of their form being ascertained.

The pottery is of good quality; it is fairly hard in texture, but differs greatly in colour, some of it being very dark, some of it yellowish, and some of it with a pink tinge.

Three of the vessels bear simple incised lines (fig. 14, Nos. 1 and 2), four have stab-and-drag designs (fig. 14, Nos. 3 to 5), and one shows finger-nail impressions (fig. 14, No. 6).



Fig. 14. Fragments of Ornamented Neolithic Urns from Taiverso Tulek, Orkney. (L.)

Owing to the small size of the fragments it is impossible to determine the dimensions of the vessels, but some of them were certainly over 10 inches in diameter at the mouth.

Rudely Fashioned Stone Axes.—Nearly twenty stone axes have been found during the Skara Brae excavations, of which more than half are peculiar in being of rude, unsymmetrical form (fig. 15).¹ These have been fashioned with a minimum of labour. Sometimes a water-worn stone with a thin edge that would require little sharpening was chosen, and after being roughly dressed into shape, the cutting edge and parts of the surface were ground, but there seems to have been no desire to polish the whole of the axe. It might be thought that such crude axes were restricted to Skara Brae, but this is not so, as I have seen half a dozen equally rude specimens which were collected off about 70 acres on the farm of Bookan: as at Skara Brae, several other better ground axes were also found here, but they were of small size. Axes formed of pebbles of suitable shape and ground only on part of their surface are occasionally found in other parts of Scotland, but they are not nearly so common as in Orkney. Seeing that a considerable number of particularly fine, beautifully polished stone axes of large size have been found in Shetland, it might have been expected that similar axes would have been found in Orkney as well, but it is quite exceptional to get a large axe there, while a considerable proportion are quite small.

An adze of a dark igneous stone rudely blocked out and only partially ground was found recently by Mr Walter Grant near the broch at Westness, Rousay, which he is excavating. Mr Grant most generously presented it, along with the fine stone hammer found on Egilsay, which is mentioned later, to the National Museum.

Broken Stone Hammers.—One of the most surprising things to be noted in considering prehistoric relics found in Orkney is the number of perforated stone hammers from these islands which have been broken across the hole for the haft (figs. 16 and 17). In the Museum at Kirkwall there are three examples—two from Tankerness, parish of St Andrews, and one from an unknown locality, but doubtless from one of the islands. In the National Museum there are three from Bookan (fig. 16, Nos. 1, 4, and 6), two from Bockan (fig. 16, Nos. 3 and 8), one from Grind, Tankerness (fig. 16, No. 5), one from Skara Brae, and one from Lamaness, in the island of Sanday (fig. 16, No. 7); also there is an example in the Skaill Collection without a locality (fig. 16, No. 2). Another was found in the entrance passage of the chambered cairn at

¹ Other rudely formed axes from this site are illustrated in our *Proceedings*, vol. vii. p. 218, pl. xlii. Nos. 2, 53, and 54.



Fig. 15. Stone Axes from Skara Brae, Orkney. (4.)

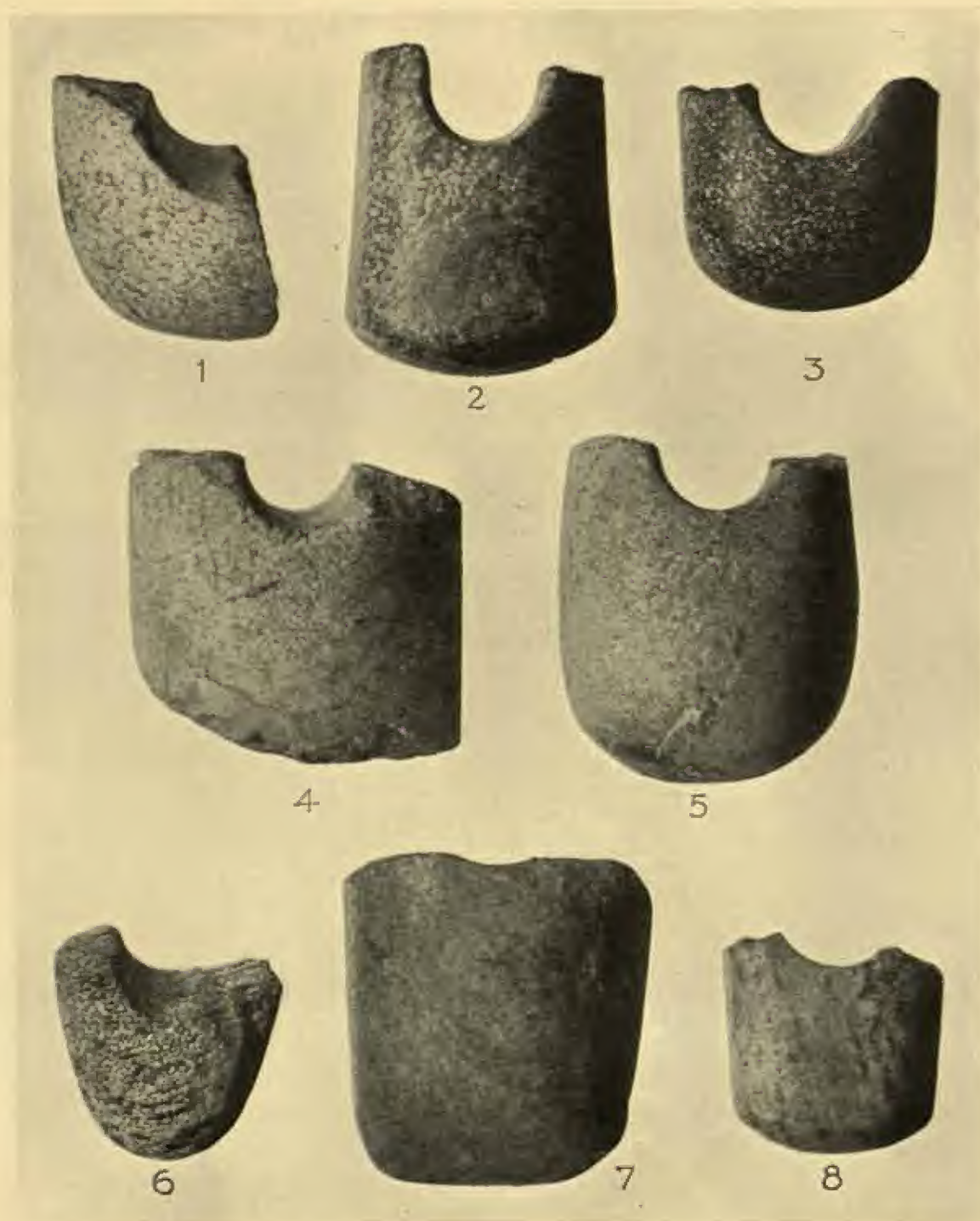


Fig. 16, Broken Stone Hammers from Orkney. (.)

Taiverso Tuick (fig. 17).¹ Besides these which are of stone there is the small fragment of one of mottled brown and yellow flint found on Bockan, already referred to. This makes a total of fourteen, of which ten, if not twelve, were found on Mainland, not a very large island. It may be mentioned that the six from the adjoining farms of Bookan and Bockan were collected from an area of less than 200 acres of arable ground. In all these fourteen cases only one-half or less of the hammer has been found. All the specimens except the two from the chambered cairn at Taiverso Tuick, and the earth-house at Skara Brae, seem to have been chance finds unassociated with structures or



Fig. 17. Half of Stone Hammer found at Taiverso Tuick. (J.)

other relics. Had a number of them been found in graves we might have been justified in surmising that they had been broken deliberately and ceremonially before being buried with the dead. This seems to have been done in the case of a stone axe-hammer found at Strichen, Aberdeenshire, in close proximity to the outside of an inverted cinerary urn of the cordoned type, one-half lying on one side of the urn and the other half on the opposite side.² As it is, the Orkney hammers show no signs of battering or of having been broken by use. We have one in the Museum, of regular oval form, which came from the island of Westray. The perforation is in the centre and the hammer is broken right across it, but both halves have been recovered.

In addition to these the following complete specimens have been

¹ *Proc. Soc. Ant. Scot.*, vol. xxxvii. p. 77, fig. 2.

² *Illus. Catal. of Specimens from Interments in the Anthrop. Museum, Marischal College, University of Aberdeen*, p. 20, figs. 18 and 21.

reported from Orkney. One of flattened oval cross-section, tapering in a regular line from the face to the butt, was found at Bloody Quoy, Deerness. One of oval shape, rather narrower behind the perforation than before, and with the ends flatly rounded, was found near Birsay; while another of similar shape was found in Orkney, although the specific locality is not known. Three of flattened oval cross-section, and tapering to blunt chisel-like ends, fall to be noted—one found at Smoogro, another at Orphir, and the third from the Skaill Collection. Another of flattened oval section, and tapering regularly from the face to the butt, was found on Egilsay. All these are in the National Collection. One of oval shape and of very flat oval section, from the island of Sanday, is preserved in the Museum at Kirkwall. A well-preserved example of the same shape as the Smoogro and Orphir hammers from Grind and another of similar cross-section but slightly convex lengthwise on the upper side, and flat below, from Hill of Oraquoy, Firth, are in private hands.

Twenty-five stone hammers, either broken or whole, have thus been recorded from Orkney, and of these certainly sixteen, perhaps twenty, were found on Mainland. This is a very large number from such a small bit of country, and I doubt if any district of similar area in the British Isles could show equal results.

While dealing with the subject of Orkney stone hammers a few words may be said about the stone axe-hammers from the same islands. Only three of these have come under my notice. They are all of the type with a large semicircular cutting edge, deep crescentic hollows on the top and bottom edges, and a tapering flat butt, the hole being drilled in the centre of the depressions on the top and bottom edges. One was found at Sandwick, another beside a cist in a burial mound at Whitehall, Stronsay, and the third came from the Skaill Collection. While the three resemble each other in shape, they have another common peculiarity inasmuch as none of them is perforated. In the first, the boring of the hole has been started from each edge and carried in only about $\frac{1}{4}$ inch, in the other two it has not been begun.

Hammer of Cetacean Bone.—This hammer came from the Skaill Collection, and the exact locality where it was found is not known. The object curves downwards, tapers slightly towards flattened ends, and it is of vertical oval section (fig. 18). It measures $4\frac{1}{2}$ inches in length, and $1\frac{1}{8}$ inch and $1\frac{1}{4}$ inch in cross diameters. The perforation, which is oval and centrically placed, measures $\frac{5}{8}$ inch by $\frac{1}{2}$ inch in diameter at the top; it widens downwards, but its exact dimensions on the under side cannot be ascertained because notches have been cut on this part. The ends show no signs of abrasion by use.

Regarding the period of the hammer, we would have had little hesitation in assigning it to the Bronze Age had it been made of stone. But three hammers made of the same material, cetacean bone, were found in an earth-house at Foshigarry, North Uist, which belongs to



Fig. 18. Hammer of Cetacean Bone from Orkney. (I.)

the period of the brochs. These, however, are rudely made, and show signs of having been used for hammering, while the Orkney specimen is carefully made, and seems to have been reserved, like so many of our stone hammers, for ceremonial use. A large hammer-head of the



Fig. 19. Carved Stone Ball from St Thomas's Kirk, Orkney. (I.)

same material, measuring $9\frac{3}{4}$ inches in length, was found in the Keiss Broch, Caithness.

Oval Carved Stone Ball.—This ball, which was found on the site of a broch at St Thomas's Kirk, Hall of Rendall, is of regular oval shape, and measures $3\frac{5}{8}$ inches in length and $2\frac{1}{4}$ inches in diameter at its widest part (fig. 19). It bears a strong resemblance to the "Mills Bomb" used in the Great War, its exterior being covered with carved pyramidal projections, which, originally pointed, are now truncated and

flattened by tear and wear and the disintegration of the stone. The protuberances, which are of irregular width, are arranged in ten longitudinal rows containing either four or five in each, with four more at both ends: they number fifty-five in all.

The object is obviously a variety of the Scottish carved stone ball, and at once recalls the specimen of regular spherical form with sixty-seven similar projections, which was found at Skara Brae during the first excavations, and another with thirty from Stenness. Not only do the three balls resemble each other in the form of the knobs, but the arrangement of them in distinct rows is the same in all. The first



Fig. 20. Ornamented Stone Object from Orkney. (3.)

two sites lie only twelve miles apart, and the third is situated between them.

Ornamented Stone Object.—This relic is nearly square in section, and tapers towards both ends in a convex curve, each side being a pointed oval on plan (fig. 20). It measures $3\frac{1}{8}$ inches in length, and the four sides vary from $1\frac{1}{2}$ inch to $2\frac{3}{16}$ inches in width at their widest part. They are each ornamented with a large lozenge filled with a lattice design, irregularly incised. Both ends and the centre of each side are battered, but this has probably been done at a period long after the purpose or significance of the object had been forgotten.

The exact locality where it was found is not known, but as it was preserved at Skaill it is very probable that it was found in the neighbourhood.

Its purpose is not known and its period is obscure. The ornamentation which it bears resembles that on some of our beaker urns and

small bronze blades of the Bronze Age, but this does not necessarily mean that it should be assigned to that period. Very similar designs appear on the edges of two stones built into Skara Brae earth-house,¹ and on a small rectangular slab found in it. Lozenge patterns are to be seen on the edge of a slab discovered near a group of short cists at Stenness.² As no datable relics were found in these graves their exact period is not known. The probability is that the incised object belongs to the time of the occupation of the Skara Brae earth-house.

Pointed Oval Stone Objects.—Two of these peculiar articles, like the



Fig. 21. Pointed Oval Stone Objects from Orkney. (1.)

last described object, came from the collection at Skail, and although their provenance is unknown, it may be taken that if not found in the neighbourhood, they were found in some part of Orkney (fig. 21). They are vesica-shaped in longitudinal section and circular in cross-section, their measurements being $3\frac{1}{8}$ inches in length and $1\frac{5}{8}$ inch in greatest diameter at the centre, and $2\frac{1}{2}$ inches in length by 1 inch in diameter. When they were made and what they were made for is not known.

Burnished Hematite Objects.—Pieces of hematite polished on various parts of their surface have been found in many parts of Scotland,

¹ *Proc. Soc. Ant. Scot.*, vol. lxiv, pp. 183 and 184, figs. 20 and 21.

² *Ibid.*, vol. lx, p. 34.

from Orkney in the north-east to Wigtownshire in the south-west, and from East Lothian in the south-east to Harris in the north-west (fig. 22). They vary greatly in size, from a fragment, polished on two sides, and measuring only $\frac{3}{8}$ inch in length, $\frac{3}{8}$ inch in breadth, and $\frac{1}{4}$ inch in depth, to an irregularly rounded nodule, rubbed over the greater part of its surface, and measuring $4\frac{1}{2}$ inches in length, $2\frac{5}{8}$ inches in breadth, and $2\frac{1}{8}$ inches in thickness.

In the National Museum there are fourteen specimens from the Glenluce Sands, Wigtownshire; two others from the same county—one from Kirkecolm, and the other from an unspecified locality (fig. 22, No. 5); two from the Culbin Sands, Morayshire; and single examples from Machrihanish, Kintyre, Argyll, the island of Harris, in the Outer Hebrides, and Upper Brough, Harray, Orkney (fig. 22, No. 2). None of them was found in association with other relics by which their period might be ascertained. Besides these, there are eight more from the fort on Traprain Law, East Lothian (fig. 22, No. 6), one from the Broch of Harray, Orkney, and one from the Airrieoulland crannog, Wigtownshire. We have thus thirty-one examples from ten localities, of which two came from two places in Orkney.

During the earlier and later excavations of Skara Brae no less than sixteen of these objects were found (fig. 22, Nos. 1 and 4), and I have seen three from Bookan and one from Appietown, both in the parish of Sandwick. With the two in the National Museum this makes a total of twenty-two specimens from five localities in one island, Mainland, in Orkney.

It is not evident what these objects were used for, although it has been suggested that they may have been ground down for red pigments. Sometimes they are rubbed only on one or two sides or facets, but at other times they are highly polished all over. As the material is very hard, they must have been subjected to a great deal of use, seeing the surface is often brilliantly burnished. One small piece from the Glenluce Sands, and another from Traprain Law, look as if they had been rubbed with a rasp, and one of the largest, from Skara Brae, which is beak-shaped at one end, has been ground all over but not polished. The example from Harris has a small hole, $\frac{1}{8}$ inch in diameter, drilled through it (fig. 22, No. 3). They seem to date to the early centuries of this era; at least those from Traprain Law, the Broch of Harray, and the Airrieoulland crannog certainly belong to this time. Nodules of hematite are found in sandstones in Orkney.

Steatite Urns.—Urns of stone, usually steatite (soap-stone), have been found not infrequently in graves in the extreme north-east of Scotland, in Orkney, Shetland, and Caithness. As a rule they are



Fig. 22. Burnished Hematite Objects—Nos. 1 and 4, Skara Brae; No. 2, Upper Brough, Orkney; No. 3, Harris; No. 5, Wigtownshire; No. 6, Traprain Law, East Lothian. (J.)

irregularly four-sided or sub-oval in form. These urns vary greatly in size, one being no more than $2\frac{3}{4}$ inches in height, while another is no less than 20 inches. They occur with burnt and unburnt human remains, more frequently with the former, in stone cists in mounds. Generally no other relics by which they could have been dated have been found with them, but as urns of the same material have been found in Viking graves in Norway, it was believed that the Scottish examples belonged to times later than those of the Bronze Age when cremation was practised. However, Professor Brøgger considers that an example from Blows, Deerness, belongs to the Bronze Age. One was found with calcined bones and a small clay urn, measuring 5 inches in height and 5 inches in diameter, in a cist in a mound at Stenness, Orkney,¹ but as the urn fell to pieces and as nothing regarding its shape or ornamentation was recorded, its type or period is not known. It may be mentioned that another clay urn, which is preserved in the National Museum, was found in a short cist in the Knowe of Saverough, Birsay.² This vessel resembles some of our Iron Age pottery much more than that of the Bronze Age.

Two interesting examples of steatite urns, quite different in form from any of those just referred to, were shown to me while in Orkney. The first was found on the farm of Bookan, nearly twenty years ago, by Mr Peter Irvine, while ploughing. Part of the rim was broken off by the sock of the plough, but otherwise it was uninjured. A peculiar feature was that a hole had been broken through low down on the side, and the fragment knocked out had been replaced and maintained in position by two crossed clasps made of thin iron rods. The most of the iron had rusted away, but the ends of the rods where they are inserted into the stone still survive. The urn is hemi-spheroidal in shape, and measures 12 inches in external diameter at the mouth, and $4\frac{1}{2}$ inches in height, the wall being $\frac{1}{2}$ inch thick at the lip. No relics of any sort were noted in the vicinity of the urn. It seems to have been a not uncommon practice to mend steatite urns when they got cracked.

There is one urn of this type in the National Museum which is believed to have come from Orkney (fig. 23). It measures $13\frac{1}{2}$ inches in diameter at the mouth and $7\frac{1}{2}$ inches in height, with a wall $\frac{1}{8}$ inch thick at the rim. A fragment of another found in a kitchen-midden on the beach at Crosskirk, Westray, and a complete one from Walls, measuring $9\frac{1}{2}$ inches in diameter at the mouth and $5\frac{1}{2}$ inches in height, with a wall $\frac{3}{8}$ inch thick, are preserved in the Kirkwall Museum.

¹ *Proc. Soc. Ant. Scot.*, vol. ii, p. 60.

² *Ibid.*, vol. v, p. 10, Pl. I. No. 1.



These four vessels are of a Viking type, as may be seen by comparing them with one illustrated in Rygh's *Norske Oldsager*, fig. 729.



Fig. 23. Steatite Urn from Orkney. (3.)



Fig. 24. Steatite Urn from Clestrain, Stronsay, Orkney.

The second belongs to the small variety of steatite urns, and is a beautifully formed vessel (fig. 24). It was found in a small stone cist with a cover-stone, under the gig-shed at Clestrain, Stronsay. Though

complete when found, it was broken later on. It has an almost circular mouth, under the rim it is constricted, and then the wall swells outwards a little before curving in to the bottom, which is round but for a small flattened space at the base. The vessel measures $3\frac{1}{2}$ inches and $3\frac{1}{4}$ inches in cross diameters at the mouth, and $3\frac{1}{4}$ inches in height, the wall being $\frac{9}{32}$ inch thick at the rim and $\frac{1}{8}$ inch at the thickest part.

SKARA BRAE: ITS CULTURE AND ITS PERIOD.

The underground buildings at Skara Brae are noteworthy in many respects. They comprise the largest group of inter-communicating earth-houses so far excavated and recorded in Scotland, they contain an extraordinary assortment of internal fittings, and they have yielded a large collection of relics, which is as remarkable for the absence of certain classes of antiquities as for the abundance of others, some of which are either unique or rarely found in Scotland. In consequence there has been a considerable divergence of opinion regarding the period of their occupation. Naturally, one would assign the monument to the period of the other Scottish earth-houses, which are contemporary with the brochs and crannogs—that is, to the late part of the Scottish Early Iron Age, about the beginning of the Christian era. But as long-handled weaving combs, spinning whorls, querns and stone lamps, typical broch relics, were not found, and as some very characteristic objects of Stone Age types, such as about twenty stone and flint axes, more than a hundred and fifty scrapers and many cores, chips and flakes of black chert and flint, three peculiar relics resembling three others found in an Orkney chambered cairn, a deer-horn socket for a stone axe, and bone hoes which in some continental countries belong to the Stone Age, were unearthed, it has been argued that the stage of civilisation of the inhabitants was not that of the brochs.

In another publication Professor Gordon Childe has expressed the view that this underground village was inhabited by a people still in the Stone Age, though probably contemporary with the Iron Age further south. It is difficult to see how this can be, as the Skara Brae phase of culture, as exemplified both by the style of the buildings and the great majority of the relics found in them, seems to approximate more to the culture of the Iron Age than to that of the Stone Age. Besides, if the inhabitants of Skara Brae were a Stone Age people living in the last centuries B.C., the question of the state of culture of the people who erected the great Bronze Age circle, the Ring of Brodgar,

and the standing-stones at Stenness, within seven miles of Skara Brae, would be difficult to answer.

The beautifully carved tool-box of wood found near the farm of Howe, Evie, about seven miles distant, shows conclusively that at an early part of the Early Iron Age, probably several centuries B.C., iron tools were used in Orkney.¹ This box, which is carved with Late Celtic designs of the best period, contained about fourteen handles of wood, bone and horn for small iron tools as seen by the tangs which remained in some of them.

At the first glance the presence of so many stone axes and so large a number of chert and flint implements, as also the other objects already mentioned, might be taken to indicate that the people of Skara Brae were in the Stone Age stage of civilisation. But a little consideration will show that this does not necessarily follow. Though the stone, chert and flint implements are numerous enough for the purpose, they do not exhibit the characteristic features of a general collection of Orkney Stone Age tools.

The stone axes might pass for true Neolithic examples, but such objects, as well as various kinds of flint implements, continued to be used and made throughout Scotland for many centuries after the working of metals began to be practised. Stone and flint implements have been found in many Scottish Bronze Age graves. Stone axes, single examples only it has to be admitted, have been found in Iron Age structures, in earth-houses at Foshigarry, and Tota Dunaig, Vallay, North Uist, and in a crannog at Lochlee, Ayrshire,² in circumstances which gave no indication that they had been used in these buildings for any other purpose than that for which they had been fashioned, although they may have been made in much earlier times.³ Several were found in the Early Iron Age vitrified fort of Dunagoil, Bute, "the use of which may have survived to the time of the occupation" of the fort.⁴ Of course the presence of so many axes at Skara Brae cannot be ignored or passed over lightly, but possibly it might be explained by a scarcity in the supply of metals in Orkney during the Bronze and Early Iron Ages, compelling the continued use of archaic types of implements after they had been discarded in other parts where metals were more plentiful.

The implements of chert and flint consisted chiefly of scrapers, those of chert outnumbering those of flint by three to one. There were hardly any knives or borers, and no arrow-heads. The absence of a fair

¹ *Proc. Soc. Ant. Scot.*, vol. xx, p. 47.

² Munro, *Ancient Scottish Lake Dwellings*, p. 105, fig. 53.

³ In a kitchen-midden at an earth-house at Udal, North Uist, I found a stone axe with both ends worn away by use as a hammer-stone.

⁴ *Trans. Bute-shire Nat. Soc.*, 1925, p. 58, Pl. iii.

proportion of these objects is quite contrary to what is found in a typical Orkney Stone or Bronze Age collection like that from Bookan already described,¹ so is the preponderance of chert over flint. This last collection had been carefully gathered together, and while it contained arrow-heads, knives, and borers, as well as scrapers, there were only four implements of chert against sixty-four of flint, the implements of chert being scrapers. The Skara Brae scrapers are for the greater part small and poorly made. It is not surprising that those of chert should be rudely formed as the material is difficult to work. But the scrapers of flint are much smaller than in a general Scottish collection, and the workmanship on them is inferior. Indeed, they do not at all resemble the products of Stone Age flint workers, but rather look like the debased output of a people who had lost the art of flaking flint, and who had only fallen back on this material to supplement their scanty kit of metal tools. The chert or flint scraper would be quite an efficient tool for the dressing of hides, which seems to have been an important industry at Skara Brae. As in the case of stone axes, flint implements have occasionally been found in crannogs and brochs along with Iron Age relics. These, however, seem to belong to an earlier period, but having been picked up and found suitable for certain purposes, were made use of in later times.

Amongst the many strange relics from Skara Brae are two stone objects which may be considered unique—the three-limbed implement, ornamented with incised lozenge designs, and the oval object with four pointed projections at each end and the body decorated with alternate groups of vertical and horizontal grooves—but they seem to belong to the same class of relics as the three-pointed implement and the object with two-pointed projections at each end, both of stone, found in a Stone Age chambered cairn at Quoyness, Orkney. A stout bone pin with a projection on the stem near the head was also found in the cairn, and it may be likened to the broken pins of smaller size, with similar projections on the stem, which were unearthed at Skara Brae. These three Quoyness relics have always been an enigma to Scottish archaeologists, and it was a pleasant surprise that objects of nearly similar character should turn up at Skara Brae.

It was a fair inference that if the Quoyness examples belonged to the Stone Age, those from Skara Brae must have been made by a people in the same state of civilisation. But there is a very strong probability that these objects may belong to a later time, and may have been deposited in this Stone Age grave, to which access could be obtained through its entrance passage, centuries after it had fallen into disuse

¹ *Supra*, p. 79.

as a place of burial.¹ It may be recalled that Dr Joseph Anderson found a number of small Bronze Age discoid beads of shale or jet in a Stone Age horned cairn at Yarhouse, Caithness.

Stated alone, the arguments that the presence of the stone axes and flint and chert scrapers at Skara Brae did not necessarily indicate a Stone Age occupation, but were perhaps only examples of early types of implements surviving to later times, and that the three objects from the Stone Age cairn had been placed in it subsequent to the time when it was used as a place of burial, might not count for much, but when ranged alongside the evidence of other classes of antiquities from Skara Brae, which belong to the Iron Age, they are worthy of consideration.

As for the deer-horn socket for a stone axe, it is not a typical Scottish Stone Age relic, seeing it is the first to be recorded from Scotland. These objects are well known as Stone Age antiquities in Denmark and France. However, on the strength of the occurrence of the only Scottish specimen in what Professor Childe considers a building inhabited in the Iron Age many hundreds of years after their period on the Continent, it is rather much to claim that the Skara Brae people were in the same state of culture as the French or Danish prehistoric people who made them, unless we can prove continuity of use over centuries.

Regarding the perforated bone hoes, such implements, but made of deer-horn, have been recorded from Stone Age sites in Denmark. Only one other specimen outside those from Skara Brae has been recorded from Scotland, and like them it was made out of a leg bone of an ox. This solitary example was discovered in a mound containing cists and other stone structures at Saverough, Birsay, Orkney, six miles from Skara Brae. One of the cists contained the remains of a human skeleton, and a vessel of clay which resembles broch pottery more than any other class of Scottish prehistoric ware. The main building, in addition to the hoe, yielded an Iron Age small-toothed comb of bone, part of an iron knife, and a handle of deer-horn for a blade or instrument, with the remains of iron rivets still visible.² These are preserved in the National Museum, but some bones of whales and quern stones were also found.

There were many shovels made from the scapulæ of cattle found at

¹ After the reading of this paper, Mr J. M. Corrie, Archaeologist to the Ancient Monument Commission of Scotland, informed me that when surveying this cairn recently for the Commission he met an old man who had assisted at the opening of it. He said that several stone whorls were also found in the cairn, which he retained. All but one had been given away, but this remaining specimen he gave to Mr Corrie, who presented it to the Museum at Kirkwall. Mr Farrar, in his account of the excavation, states that "a stone for pounding corn" was found with the objects mentioned above "amongst the rubbish" (*Proceedings*, vol. vii, p. 400).

² *Proc. Soc. Ant. Scot.*, vol. v. p. 9. This site should not be confused with the earth-house at Saverock, near Kirkwall.

Skara Brae. These implements have been found in Stone and Early Iron Age sites in England,¹ but the only similar example recorded from Scotland came from an Iron Age earth-house at Rennibister, also in Orkney. What might be termed a miniature specimen, for it was made from the shoulder blade of a smaller animal, was found in the Broch of Burray, Orkney.²

If we now consider the different kinds of relics found at Skara Brae which definitely belong to the Iron Age, and which go to show that, far from being in the Stone Age state of culture, the inhabitants of the site were in the same state of civilisation as their Iron Age neighbours on the other side of the Pentland Firth, which though a stormy part of the sea is less than nine miles wide at the narrowest part, with several islands intervening so that the widest stretch of water is little over three miles, we find that they include carved stone balls, pieces of burnished hematite, stone pot-lids, small thin blades of bone, and pigments, none of which classes of relics has been recorded from any Neolithic site in Scotland. There is also a broken whetstone which suggests metal tools.

Although large numbers of carved stone balls have been collected in the eastern counties of Scotland, north of the Firth of Forth, not one except those from Skara Brae has been found in direct association with other relics by which their period might be determined. Two are said to have been found in a short cist at Ardkeiling, Strypes, Morayshire,³ but this record has not been generally accepted as a satisfactory one. Another ball was found in the fort of Dunadd, Argyll, which was occupied early in the Christian era, but although there was nothing to show that it was contemporary with the occupation of the fort, it may well have belonged to that period. Some of the discs on a number of the carved balls are ornamented, and as the designs resemble those of the Early Iron Age and not of the Scottish Stone or Bronze Age, they have generally been allocated to the first-mentioned period. Five specimens were discovered at Skara Brae. One is a normal ball of the commonest type, with six projecting discs. Another with rounded knobs is peculiar only because it is smaller and less regularly rounded than usual. A third is of regular globular form, and differs from others only because its sixty-seven projections are pyramidal in shape instead of being rounded. The remaining two are of small size and irregular contour, and have pointed protuberances. The occurrence of these objects on the site seems to point to the culture of the Iron Age, and the discovery of the oval specimen with pyramidal projections on the site of a broch at St

¹ *Sussex Arch. Collections*, vol. lxvii, p. 139.

² *Proc. S. A. Scot.*, vol. lxi, p. 300.

³ *The Reliquary and Illustrated Archaeologist*, vol. iii, p. 45.

Thomas's Kirk, Rendall,¹ strengthens this view. Incidentally it may be mentioned that another globular ball with thirty similar projections was found at Stenness in Orkney. Not only have these two round balls and the oval one projections of pyramidal form, but at what may be called their opposite polar points, there are four symmetrically placed projections. A similar arrangement is also seen on the peculiar stone object referred to on p. 105 which has been compared with one of the three objects from the cairn at Quoyness. Another stone ball which also bears out this view is the one found at Hillhead, St Ola, near Kirkwall.² It is ornamented with pyramidal projections on part of its surface and with grooves, some arranged at right angles to each other as in the Skara Brae specimen. This suggests that these five objects belong to the same period, the Iron Age, and if this is so, the other two relics from the cairn are probably of the same period.³

Let us now consider the ground and polished pieces of hematite. Sixteen were found at Skara Brae, and, as we have seen, thirty-five others have been recorded from other parts of Scotland.⁴ Eight of these came from the fort on Traprain Law, East Lothian, from levels of occupation dating to the first four centuries of this era, one was found in the Broch of Harray, Orkney, and one in the crannog at Airrieoul-land, Ayrshire, both Iron Age sites. These do not indicate that the Skara Brae inhabitants were in the Stone Age nor in the Bronze Age, although hematite was used by the inhabitants of Scotland in the latter period, but as a strike-a-light.

Thin circular discs of stone known as pot-lids, ranging from 3 inches to 15 inches in diameter, were found in large numbers at Skara Brae. Similar pot-lids are well-known broch relics; for instance, seventeen, graded in size, were recovered from the Broch of Kettleburn, Caithness. These objects might belong to many periods, but so far they have never been recorded from Stone or Bronze Age sites, either domestic or sepulchral, in Scotland, and they were used long after the Early Iron Age. But we can claim them as characteristic of the broch, as they have not infrequently been found in sets in these buildings. They have also been discovered in earth-houses at Foshigarra, and other places in North Uist. That their use was not general in Scotland during the time of

¹ *Supra*, p. 96.

² *Proc. Soc. Ant. Scot.*, vol. xvi. p. 205.

³ It would not be unreasonable to infer that the Stenness and St Thomas's Kirk balls were made at Skara Brae, their technique being so much alike they might have been carved by the same hand, which also might have been responsible for the object with three points. Further attention might be directed to the two inferior balls and to the perforated ball or mace head found at Skara Brae, which have pointed instead of rounded or flat projections, and betray inferior craftsmanship. The whole group is an interesting one, because no ball with pointed projections seems to have been recorded from any part of Scotland outside Orkney.

⁴ *Supra*, p. 96.

the occupation of the brochs is very evident, because we did not find a single *typical* specimen in the fort on Traprain Law. Four circular discs which from their size would have been quite suitable as pot-lids were discovered, but they are partly polished. Small rough slabs have been found with Bronze Age sepulchral pottery in a position which suggested that they had been used as covers for the urns, but they bore no resemblance to the broch or Skara Brae pot-lids.¹

Amongst the rare types of relics found at Skara Brae were over thirty small, thin blades of bone, some being ground nearly flat on both faces and others on one face only, while they had been rubbed down to a blunt edge at the ends. The only other specimens that I know of are two which were found in the Road Broch, Keiss, Caithness.

No more surprising discovery was made at Skara Brae than the four thousand odd beads fashioned from the long bones of animals and teeth of sheep. Prehistoric beads of bone have been found in brochs, but, all told, their number is insignificant. Indeed it is amazing that so many should be found at Skara Brae and so few elsewhere. The most of the beads from Skara Brae were made by cutting notches round the bones and the teeth and then breaking them across. No work had been expended on the perforation in most of them, as they were made from teeth, and the nerve canal was quite suitable for stringing without further treatment. Many from the root of the tooth have so small a hole that only the thinnest needle can pass through it. Some of the larger beads made from bones, however, have had their natural cavities enlarged, but not with stone or flint tools as would have been the case had the makers been in the Stone Age. The artificial perforations seem to have been made with metal tools. Again, there are several hundred discoid beads, measuring from $\frac{1}{16}$ inch to $\frac{5}{16}$ inch in thickness, which seem to have been sawn with metal tools. No bone beads have been met with on any of our Scottish Stone Age sites, but a few have been recovered from Bronze Age graves. These were different in character from the Skara Brae beads as a whole. Discoid beads of jet or shale are well-known Bronze Age ornaments, but these are circular in section, while the Skara Brae specimens are often irregularly rounded. I have examined all the chert, flint and stone implements from Skara Brae most carefully, and cannot find one which could have sawn the discoidal beads or enlarged the cavities in some of the beads. There is only one pointed implement of flint which might have been used as a borer, but it could never have formed the perforations in some of the larger beads.

There are a few pointed implements, perhaps awls, of bone with

¹ *Proc. Soc. Ant. Scot.*, vol. lli. p. 133.

perforations in the head. They do not seem to be needles, because the top is too broad. The perforations in them appear to have been drilled with a metal borer.

We now come to the red and brown pigments from Skara Brae. Not only were they present in small masses, but traces of them were seen in small mortars made of stone and the vertebræ of mammals. Doubtless, pigments were used by the prehistoric inhabitants of Scotland from very early times, and though they do not seem to have been recorded from any of our Neolithic or Bronze Age sites, a small block of red colouring matter was discovered in the Azilian deposit at Caisteal nan Gilleann in Oronsay. Only other three records of such finds are known to me. A few small lumps of red pigment were found in one of the crannogs in Bishop Loch, Lanarkshire, a few miles east of Glasgow, which also yielded a socketed iron axe; Mr J. Hewat Craw recovered small quantities of red, brown, and yellow pigments in the Broch of Aikerness last summer, this broch lying less than ten miles from Skara Brae, and a small block was discovered in the earth-house at Bac Mhic Connain.

We have just seen that small stone mortars containing traces of pigments were found at Skara Brae. Some of the smaller hollowed stones, however, may have been used for other purposes, and these may be compared with similar receptacles found in a number of Orkney and Caithness brochs. As for larger hollowed stone vessels, a good variety was unearthed at Skara Brae, and many more have been found in brochs. Also, examples made from the vertebral bones of whales are common to Skara Brae, brochs, and Hebridean earth-houses.

The dorsal plate of a whale artificially worked from Skara Brae is not a common Scottish relic, but three have been found on Iron Age sites in Lewis and North Uist, two being from earth-houses.

No stone lamps like those found in brochs were recorded from Skara Brae, but there was less need for them there. None of them was found in any of the half-dozen earth-houses excavated by Mr Erskine Beveridge in North Uist, although some of them had long, low-roofed passages. The chambers in these structures would be lit from the fire or through the orifice in the roof above it, but lamps would be required when going into the long superimposed galleries within the thickness of the wall of the brochs.

An object of sandstone resembling a ship's block in general form, with a groove running round it lengthwise and a depression at one end, came from Skara Brae. The only Scottish parallel to it that I have seen, is one discovered in a kitchen-midden adjoining what appears to have been an earth-house, in one of the mounds known as the Birkle Hills, Keiss,

Caithness, a bone and a stone whorl, some chipped pieces of flint, and a bone pin having also been found.¹

Nothing is more important for dating prehistoric sites than pottery, and a considerable quantity was found at Skara Brae, but it did not bear the slightest resemblance to the Stone Age pottery of Orkney, of which we have a large collection in the National Museum, nor, for that matter, to pottery of this period from any other part of Scotland. None of the shards gave any indication that the vessels had been round-bottomed like our Stone Age pottery in general. But a number of basal fragments were recovered, and these all belonged to flat-bottomed vessels. The Skara Brae pottery bore a wealth of decoration. Even the inside of some of the basal shards was ornamented. Encrusted designs, that is, applied patterns in relief, were common, but though this form of decoration occurs on Bronze Age cinerary urns in Scotland, the north of England, and Ireland, the patterns on the Skara Brae ware are different. Applied ornamentation is very common on the pottery of the earth-houses, brochs, and kitchen-middens of the Hebrides, and is seen occasionally on that from the brochs of the north-east of Scotland and the fort on Traprain Law. Although generally the patterns from these places are less elaborate, some of the designs would not be out of place on Skara Brae pottery. The applied circular rings or amulets appearing on ware from that site are seen on fragments from the Foshigarra earth-houses and from Port-nan-Long, both in North Uist, and the applied ladder-like designs, and the round projecting bosses, on vessels from the Broch of Lingrow, Orkney. The incised spiral design on one of the Skara Brae shards has never been recorded on any Scottish Stone or Bronze Age pottery, and although it may not have been met with on our Iron Age pottery either, the motive is well known on the carved stone balls of the latter period. It has to be noted, nevertheless, that not a few incised spirals occur on Bronze Age rock sculpturings in different parts of the country.

Having discussed the relics found at Skara Brae, it is necessary to consider the structures. In such Stone Age chambered cairns as the Maeshowe and the one on the Kewing Hill, Orkney possesses two of the finest prehistoric buildings in the British Isles. The fine work seen there would not have been possible but for a plentiful supply of stones—Old Red Sandstone slabs—which split with peculiar straight fractures, often at practically right angles to each other. Thus there was nothing to hinder the Stone Age people of the Orkneys erecting as well-built habitations as those at Skara Brae. But there is no evidence that they built such structures, and none resembling them, either of the Stone

¹ *Proc. Soc. Ant. Scot.*, vol. vii. p. 49, fig. 19, No. 2.

Age or Bronze Age, has been recognised in any other part of Scotland.

The Skara Brae earth-houses are peculiar chiefly for the varied stone fittings seen in most of the chambers; some of these, the so-called dressers, do not seem to have been reported from other parts. The rooms at Skara Brae are approximately square or rectangular, usually with slightly curved walls and rounded corners. Chambers bearing a resemblance to them are to be seen in some of the outbuildings of the brochs and in the earth-houses at Stenabreck and Howmae, North Ronaldsay, Orkney.¹ In the last there is also a chamber with internal walls set radially to support the roof, a feature seen in the outworks of some of the brochs, especially the Broch of Yarlshof, and very common in the earth-houses of South Uist and North Uist in the Outer Hebrides. Eight of the chambers at Skara Brae had a hearth placed near the centre of the floor. A similar feature has been found in brochs, such as the Broch of Dun Troddan, Glenelg, Inverness-shire, in several of the chambers in the Foshigarry earth-houses, and in other similar buildings in North Uist. All these earth-houses had radial walls. The broch and every one of the earth-houses furnished evidence to show that the central space over the fireplaces had not been roofed. No doubt the reason why so many bone shovels were found at Skara Brae was because of its liability to be inundated by drifting sand falling through the open space in the roof above the hearths, which required to be shovelled out frequently.

Another Skara Brae feature which is seen in many brochs, and in the earth-houses at Foshigarry and Bac Mhic Connain, in North Uist, is the box-like structures formed of slabs set on edge in the floor. In one of the outbuildings at the Broch of Westness, Rousay, which is at present being excavated by Mr Grant, is a structure resembling the so-called beds at Skara Brae. A distance of only eleven miles separates the sites.

Finally, in the walls of the passages at Skara Brae there were quite a number of bar-holes to receive the wooden spar which kept the door—probably a stone slab—in position when shut. Such bar-holes are so common in brochs that one expects to find them in clearing the entrance passage.

If a broch were inserted into the centre of Skara Brae earth-houses and the various chambers grouped around it, only some of the peculiar internal fittings might call for comment.

Looking at the relics found, the chief evidence for the theory that the Skara Brae inhabitants were in a Stone Age state of culture though

¹ *Proc. Soc. Ant. Scot.*, vol. xix, p. 14.

living in the Iron Age is the undoubted presence of a very crude chert and flint industry, which, however, is utterly unlike that of the Orkney Stone Age, as witnessed by a comprehensive collection of flint and chert implements from a farm only six miles distant; the number of stone axes discovered; and the finding of a deer-horn socket for a stone axe and of hoes of bone, which resemble certain French and Danish objects of deer-horn which belong to the Stone Age of these countries, but are a good many centuries older than the Skara Brae period of occupation, which is believed to be the Iron Age.

The arguments for an Iron Age culture are the occurrence of carved stone balls, generally admitted to belong to that time, and of special types of beads and perforated pointed tools of bone, that seem to have been fashioned by instruments of metal, and the discovery of pieces of burnished hematite, stone pot-lids, small, thin blades of bone, large and small vessels made from hollowed stones and vertebrae of whales, the worked dorsal plate of a whale, and the oval stone object encircled by a groove, all types of objects which have been recorded either from brochs, earth-houses, crannogs, or forts, and many from at least two of these kinds of structures, all of which belong to the Iron Age.

The absence of weaving combs and whorls, typical broch and earth-house relics, may be explained by the attention of the Skara Brae population being directed more to the curing of pelts than to the spinning and weaving of fabrics for clothing.

As for the absence of querns and the deduction therefrom that this people were not agriculturists and did not grow grain, we know that grain was produced in Scotland both in the Stone and Bronze Ages, and there is no obvious reason why this knowledge should not be taken to Orkney, if not in the Stone Age by people who could build such a splendid monument as the Maeshowe, then in the Bronze Age by the men who could erect the imposing Ring of Brodgar. It is inconceivable that the builders of the Bronze Age structures, at least, did not know something about agriculture. If this be granted, we can hardly believe that a people living at a later time, in the same neighbourhood, did not know about the cultivation of cereals. I think, however, that the large stone with the hollow on the top which was found at Skara Brae is, in spite of its size, a saddle quern.

The pottery is in a class by itself, but while it shows no affinity to the pottery of the Orkney Stone Age, some of the designs on it can be matched in Scottish Iron Age pottery.

In the same way many analogous features of the Skara Brae buildings are to be seen in both brochs and earth-houses, though not in any Stone Age structure in Scotland.

The absence of objects of iron at Skara Brae does not necessarily mean that this metal was not known to its inhabitants. As a matter of fact, all the iron tools and implements in the extensive collections of relics in the National Museum, discovered in brochs in Sutherland, Caithness, Orkney, and Shetland, can be counted on the fingers of both hands. The same phenomenon is to be noted in the earth-houses of the Hebrides and Orkney. Practically all the direct evidence we have that the people of the brochs and earth-houses made use of iron is the remains of a few knives and the rivets in their hair-combs, while slag has been found in the earth-houses at Foshigarra and Bac Mhic Connain. It has been said that the culture of the brochs and earth-houses was a stone-and-bone culture. This may be granted up to a certain extent, as their inhabitants were making use of materials that a Stone Age people would have utilised, but it does not follow that their culture was that of the Stone Age. Apart from the discovery of such distinctly Early Iron Age (Late-Celtic) relics as the bronze tweezers in the Broch of Kettleburn and the bronze spear-butt in the Broch of Harray, the small crucibles of Iron Age types from the brochs of Dun Beag, Skye, and Cinn Trola, Sutherland, and the earth-houses at Foshigarra and Bac Mhic Connain, together with the clay moulds for brooches from the latter site and for an early type of pin from the Broch of Lingrow, show that the occupants of these buildings were perfectly familiar with the casting of metals. The broken whetstone from Skara Brae, it may be remarked, is of a form frequently found on Iron Age sites in Scotland.

No doubt the reason why no small tools of iron were discovered at Skara Brae, and so few at other sites, is the peculiar situation of so many of the brochs and earth-houses. A favourite position is on or near the sea-shore, so that the buildings would frequently be drenched with salt spray throughout the ages. Salt water is very much worse than rain for the destruction of iron, and so objects made of it, embedded in porous soil, often in sand, which allowed the water to drain off quickly, would very rapidly disintegrate into masses of rust.

The evidence of the relics and the buildings, although they display certain novel features, seems to prove that the Skara Brae people were in close touch with the inhabitants of the brochs and earth-houses, and consequently were of the same culture, that of the Iron Age. As for the date of the buildings, it appears to be very near that of the brochs. It may be rather earlier, but there has been no evidence produced to indicate that it is later.

III.

EDZELL CASTLE. BY W. DOUGLAS SIMPSON, M.A.,
D.LITT., F.S.A. SCOT.

HISTORICAL INTRODUCTION.

In my paper on "The Early Castles of Mar," contributed to our *Proceedings* a couple of years ago,¹ I pointed out how the castles in the Dee Valley which date from the period of Anglo-Norman penetration in the twelfth and thirteenth centuries occupy positions which obviously must have been selected to command the debouchures of the various passes over the Mounth, and the relative fords or bridges on the river. What would nowadays be called considerations of strategy have clearly exercised a dominant influence on the choice of sites for these early strongholds. In the same paper I further demonstrated how in the interior of Mar the remains of Norman castles are found strung along the great trunk roads leading into Buchan and into Moray; and how again and again these castles are associated with early parochial churches or church sites, in the way so characteristic of Norman penetration throughout the British area. I also pointed out that ample evidence exists to show how the Norman infiltration of Mar involved no violent breach of continuity with past conditions: for the Norman castle and its associated church repeatedly occupy sites known to have been primitive centres of population, and the churches often bear the names of Celtic missionary founders, or are accompanied by the crosses and symbol stones characteristic of Pictish Christianity.²

In all the foregoing particulars an exactly parallel state of affairs may be discovered by an inspection of the traces which the Anglo-Norman penetration has left on the sunward side of the Mounth.

Thus (see map, fig. 1) the Cairnamounth Pass, the most important crossing in the eastern section of the great barrier,³ is controlled, just at the point where the road leaves the Howe of the Mearns and commences the ascent of the Mounth, by the royal castle of Kincardine. About ten miles south of Kincardine Castle lies the ancient city of

¹ *Proceedings*, vol. lxiii, pp. 102-33.

² See on this subject my *The Historical Saint Columba*, 2nd ed., pp. 73-8.

³ To the *résumé* which I have previously given (see *Proceedings*, vol. lxiii, pp. 119-22) of the part played by the Cairnamounth Pass in Scottish military history from the eleventh to the seventeenth century, it may here be added that this Pass was used by the Earl of Huntly on his march south against the rebel barons that culminated in the battle of Brechin, 18th May 1432. See Sir Robert Gordon, *Genealogical History of the Earldom of Sutherland*, p. 72.

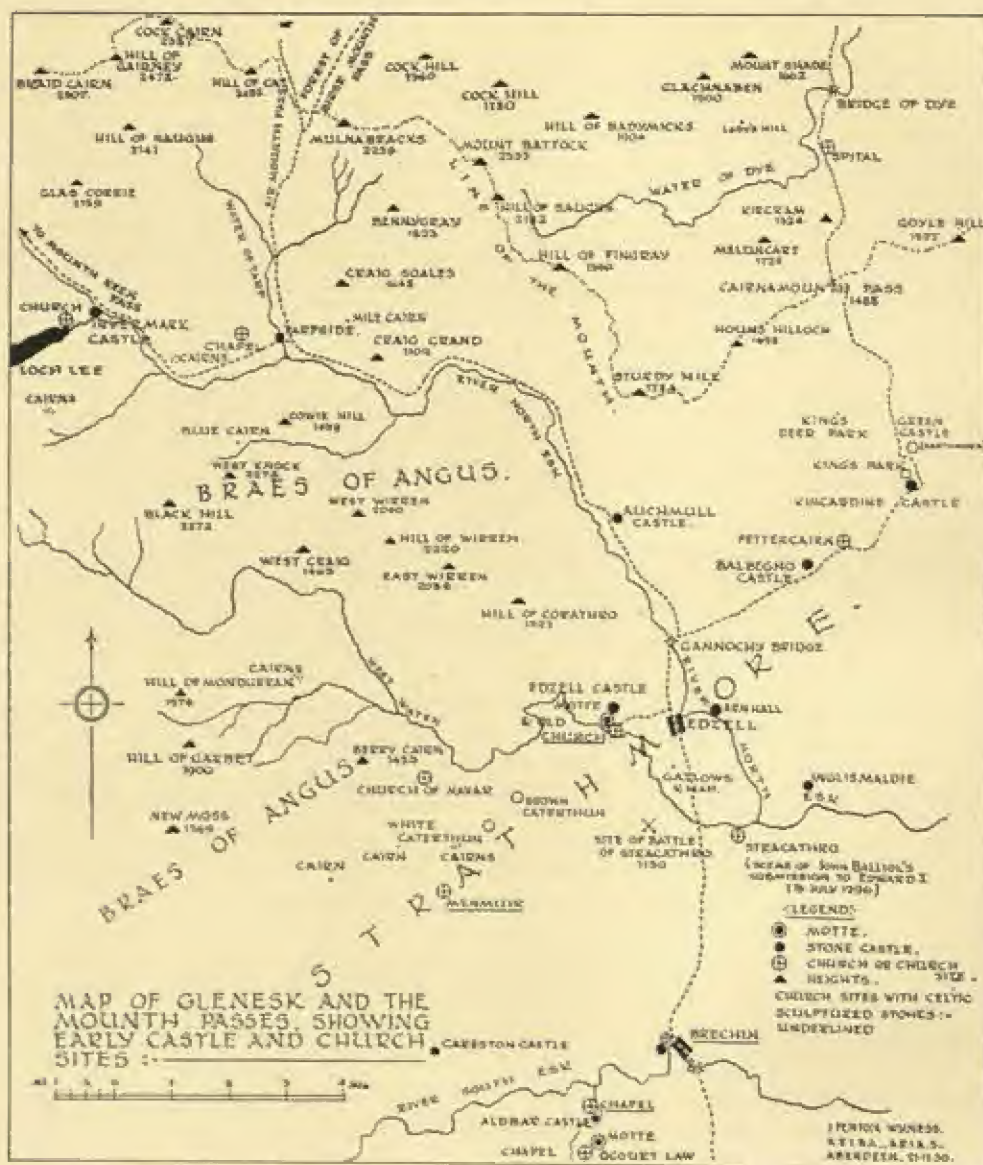


Fig. 1. Map to illustrate the strategic position of Edzell Castle.

Brechin, with its castle, its cathedral, and its Round Tower, and its memories of Scotch and of still earlier Pictish greatness.¹ Midway between these two is Edzell, a point of great strategic consequence, for

¹ *The Historical Saint Columba*, pp. 32, 74.

here the Cairnamounth route gives off to the left a very important branch road, which ascends Glenesk, from whose upper regions the Forest of Birse Mounth, Fir Mounth, and Mounth Keen crossings are reached. It is therefore no coincidence that at Edzell we should find the remains of a Norman mount and bailey castle and an associated parochial church; and it is in full accordance with the evidences of continuity in the Norman penetration, discoverable at so many other Scottish sites, that here at Edzell also the mediæval church should be associated with a far older monument of Celtic Christianity. At Edzell also, as so often in Scotland, the early parochial centre has been disrupted both by the civil and by the ecclesiastical authorities. In the sixteenth century its now powerful Lindsay lords deserted the ancient *motte* of their predecessors, the Stirlings of Glenesk, and rehoused themselves in sumptuous fashion on a sweeter and more sheltered spot about a quarter of a mile further north. And in 1818 the old church also was abandoned, and a new one was built to serve the needs of the expanding community of Slateford, which was the germ-cell of the pleasant modern village of Edzell.

As the castle at Edzell commanded the lower entry of the Glenesk road, so from the sixteenth century onwards the tall tower of Innermark sentinelled its upper reaches and controlled the Fir Mounth, Forest of Birse Mounth, and Mounth Keen¹ crossings. A writer of *circa* 1683-1722 concisely states the position. "In Lochlie is the great and strong castle of Innermark upon the water of Northesk. It is very well peopled and upon any incursions [of] the Highland Katranes (for so those highland robbers are called) the Laird can, upon very short advertisement, raise a good number of weell-armed prattie men, who seldom suffer any prey to goe out of ther bounds unrecovered."²

Who the early Norman or Normanised lords of Glenesk may have been, and whence they came, are questions to which no certain answer can be given. In the most ancient records, from about 1260 onwards, they appear simply under the territorial designation of de Glenesk. That they were a Normanised native family, rather than immigrants, is suggested by the fact that one of them, Morgund de Glenesk, who swore fealty to Edward I. at Berwick, 28th August 1296,³ has a Celtic name. It is not proved, but is exceedingly likely, that these de Glenesks

¹ The Mounth Keen Pass "layes from Innermarkle to Canakyle [Kandychyle, now known as Dee Castle], on Deo side, and containes ten myles of monthe."—Sir James Balfour of Denmilne (1600-37), quoted in *Collections on the Shires of Aberdeene and Banff*, p. 77, note 1.

² Ouchterlony of Guisde's description in *Macfarlane's Geographical Collections*, ed. Sir A. Mitchell, vol. ii. p. 30.

³ *Ragman Rolls* (Bannatyne Club), p. 126. Johan de Glennysk, probably merely a variant of the same surname, also gave in his submission on that date.

were the descendants of a family named Abbe, of whom Malise, John, *Morgund*, and Michael are successively on record as disposing of lands in Glenesk early in the thirteenth century. This family almost certainly took its origin from the lay *abs* or abbots of a Celtic monastic foundation, probably established by St Drostan, with whose name the primitive Christianity of the district is associated. At a later period in the thirteenth century we have records of a family of Stirling or Strivelyn de Glenesk: but whether these were of the same stock as the earlier lords who are styled simply "of Glenesk" it does not seem possible now to say. In or about 1357, Catherine Stirling, heiress of Glenesk, married Sir Alexander, third son of Sir David Lindsay of Crawford, and thereby acquired the barony of Glenesk. The "lichtsome Lindsays," a gallant, turbulent, gay, and tragic race, remained in possession until 1715, in which year—the family affairs having fallen, through various causes, into a state of hopeless embarrassment—the estates were sold for the sum of £192,502 Scots, or £16,042 sterling (a huge amount for those days), to the Earl of Panmure.¹ Edzell Castle itself has had a comparatively uneventful history. On 25th August 1562, Queen Mary, on her northward march against the Gordons, held a Privy Council within its walls;² and on 28th June 1580 it received a visit from her son, King James VI.³ During the Civil War, David Lindsay of Edzell was a staunch supporter of the Covenant, and in consequence Glenesk was soundly harried by Montrose during the April of 1645; but the castle does not appear to have suffered in the course of the Royalist leader's depredations, and we may presume that he forbore to tempt its guarded walls. At the end of September 1651 it was occupied by a detachment of Cromwell's soldiers, who remained in garrison for a month, inflicting distressful losses on the countryfolk around. The natives of Glenesk were warmly disposed towards Episcopacy, and led by their laird they strongly resisted the introduction of the Presbyterian settlement of 1690. In the "great hall of Edzell" Episcopal services were held when the use of the parish church was denied to the recusants and their minister by a decree of the Lords of Justiciary.⁴ Lord Panmure having joined the rising of 1715, the lands which he had so recently purchased were forfeited, and Edzell Castle, like so many other mansions of the time, thus passed into the hands of the York Buildings Company, whose agents began the long-continued process of despoiling the stately building and its surrounding policies. In 1746, during the second

¹ See D. Murray, *The York Buildings Company*, pp. 25-6.

² *Register of the Privy Council of Scotland*, vol. i. p. 218.

³ Walter Cullen, "Chronicle of Aberdeen," 1491-1595, in *Miscellany of the Spalding Club*, vol. ii. p. 53.

⁴ A. Jervise, *The Land of the Lindsays*, 2nd ed., p. 10.

Jacobite rising, a detachment of Argyll Highlanders, acting in the Hanoverian interest, occupied the partly dismantled castle, and "contributed greatly, by all manner of extravagance and outrage, to pollute its time-honoured walls, and despoil it of its princely grandeur."¹ Its final ruin came in 1764, when the roofs and floors were stripped out and sold on behalf of the creditors of the now bankrupt York Buildings Company. The fine avenue of beeches that led up to the castle from the church was cut down, and what remained of the policies was heartlessly laid waste. In that same year the forfeited Panmure estates were purchased back again by William Maule, Earl Panmure of Forth, on whose death in 1782 they passed to his nephew, the eighth Earl of Dalhousie, ancestor of the present noble owner. A fair amount of conservation work was done on the ruins during the last century, but they are now unfortunately in a very bad state of repair, and it is urgently desirable that their custody should be handed over to the Ancient Monuments Department of His Majesty's Office of Works.²

THE MOTTE.

The site of the early manorial centre, still known as Castlehillock (see map, fig. 2), lies close to the left or north bank of the West Water, about three miles above its junction with the North Esk, and a little more than a mile due west of the modern village of Edzell. The ancient churchyard lies about 80 yards south-west of the *motte*, the road to Bridgend and the upper glen of the West Water now running between them.

The quaint old churchyard, with its Pictish sculptured slab, its burial aisle of the Lindsays (built by the ninth Earl of Crawford, 1542-58),³ and its numerous interesting tombstones, has already been described and illustrated in our *Proceedings* by the late Mr Alan Reid, F.S.A.Scot.⁴

The *motte* (see plan in fig. 2, and view, fig. 3) is of an elongated trapezoid form, with its long axis lying west-north-west and east-south-east. Its summit area measures about 125 feet in length by 52 feet across the eastern or broader end. On the north the *motte* overlooks a deep ravine, about 100 feet in average breadth and 40 feet in depth below the summit of the *motte*. Round the *motte* are distinct traces of an entrenched bailey, measuring about 300 feet in length

¹ *The Land of the Lindsays*, p. 67.

² I have not thought it necessary to burden the text with detailed references to the sources for the foregoing historical *résumé*, as the facts and authorities are fully set forth in Jervise, *op. cit.*, and in Lord Lindsay's *The Lives of the Lindsays*. See also Dr John Stuart's Introduction to the *Registrum de Panmure*, vol. i. pp. ciii-civ.

³ Lord Lindsay, *op. cit.*, vol. i. p. 327.

⁴ Vol. xlix. pp. 294-9.

and 200 feet in greatest breadth: on the north side this bailey finds a natural boundary in the ravine, but on the east and south the boundary is formed by a ditch, now almost filled up, but apparently about 30 feet in average breadth. No trace of foundations of any kind appears either on the *motte* or within the area of the bailey; but there is a record of vaulted chambers having formerly been visible.¹

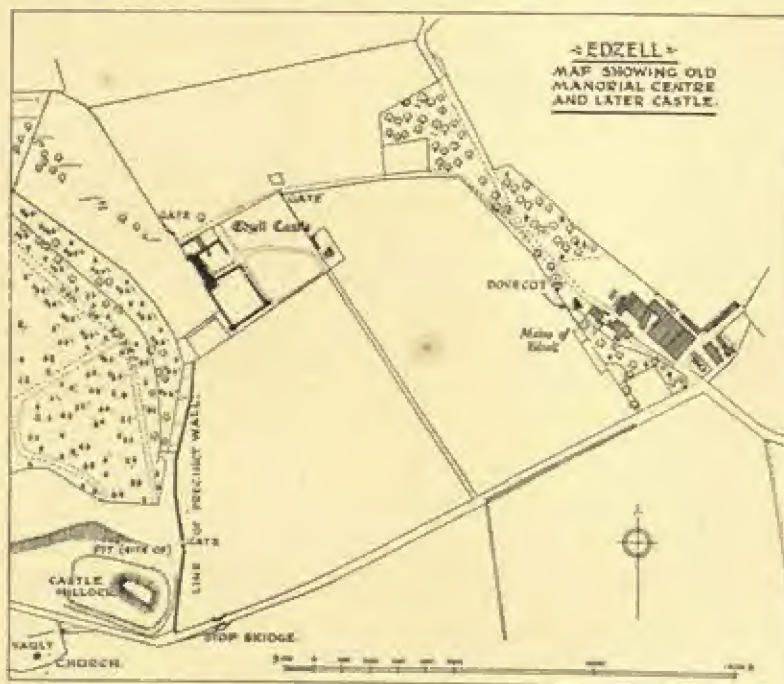


Fig. 2. Edzell Castle: Map of precincts (based on O.S., with additions).

THE LATER CASTLE.

The position chosen for the later castle (see map, fig. 2) is a level stretch of ground about 330 yards north-north-east of the *motte*. On the west side the area is bounded, at a distance of 67 yards from the castle front, by the deep and picturesquely wooded Den of Edzell; to the east and south is even ground, sloping very gently towards the West Water; but to the north the ground immediately behind the castle rises abruptly and irregularly. On this side the castle buildings are thus completely overlooked at close range, and it is clear that shelter and an unimpeded sunward outlook were the influences governing

¹ Jervise, *op. cit.*, p. 7.



Fig. 3. Edzell Castle : View of *motte* from east, with old churchyard behind. In front are the remains of a precinct gate.

[Photo I. L. Stodd.

the selection of the site, to the almost entire exclusion of considerations of defence.¹ The castle also faces, though more remotely, higher ground on the opposite side of the Den of Edzell, the west bank of which is considerably steeper and more lofty than the east bank. Some fine old trees, the last remnant of the once magnificent policies, still lovingly enclose the ruins; and the contrast between their green foliage and the deep red freestone out of which the castle is built forms an effect of colour which is as pleasing to the eye as are the proportion and grouping of the mass of buildings and the picturesque outline of the broken turrets, crow-stepped gables, and chimney vents.

THE TOWER-HOUSE.

The oldest portion of the very extensive mass of buildings which now comprise the castle (see plans, figs. 4 and 5) is a "tower-house and jam" of considerable size on the L-plan, dating evidently from the first half of the sixteenth century. This tower-house (figs. 6 and 7) is a comely structure, four storeys in height, exclusive of the cap-house, which rises from within a parapet carried continuously all round the building. The tower-house is set with its length east and west,² and measures 44 feet by 34 feet, the "jam," or limb of the L-plan, forming a projection appended to the east end of the north front, and measuring 15 feet 9 inches in breadth along the front, by 6 feet 7 inches in projection from the main structure. To the parapet walk it measures about 54 feet in height; within this, the garret gables and chimneys have risen a further 18 feet, or thereabouts. In the basement the outer walls are in general 7 feet thick; on the first floor their thickness is reduced to 5 feet 10 inches: but in the upper levels it is to be noted that this tower shows less of the battered profile or entasis so usually and beautifully found in our old Scottish buildings.

The doorway occupies the normal position in the re-entrant angle, yet it is not placed close up against the wing, as commonly, but far enough away from it to allow room for a loophole giving light to a vaulted corridor carried eastward from the door to the main spiral stair, which is contained in the wing. The portal is checked for the usual

¹ Lord Lindsay, *op. cit.*, vol. I. p. 347, speaks of a moat having formerly enclosed the whole area of the castle, and says that this "no longer exists, in consequence of the West Water having formed for itself a new channel during a flood above a century ago"—i.e. *ante* 1749. But it is not apparent how any change in the bed of the West Water could affect a moat at Edzell Castle, nearly half a mile away. If there is truth in the story, I suspect it refers to the ancient site at Castlehilllock.

² For convenience in description it is assumed that the castle is set to the cardinal points of the compass. The correct orientation is shown on the plans.

double defence, an outer wooden door and an inner iron "yett,"¹ the latter secured by a drawbar: there is the customary aumbry for the porter's use. At the other end of the corridor space is contrived under the ascending steps of the stair for a small vaulted guardroom, measuring

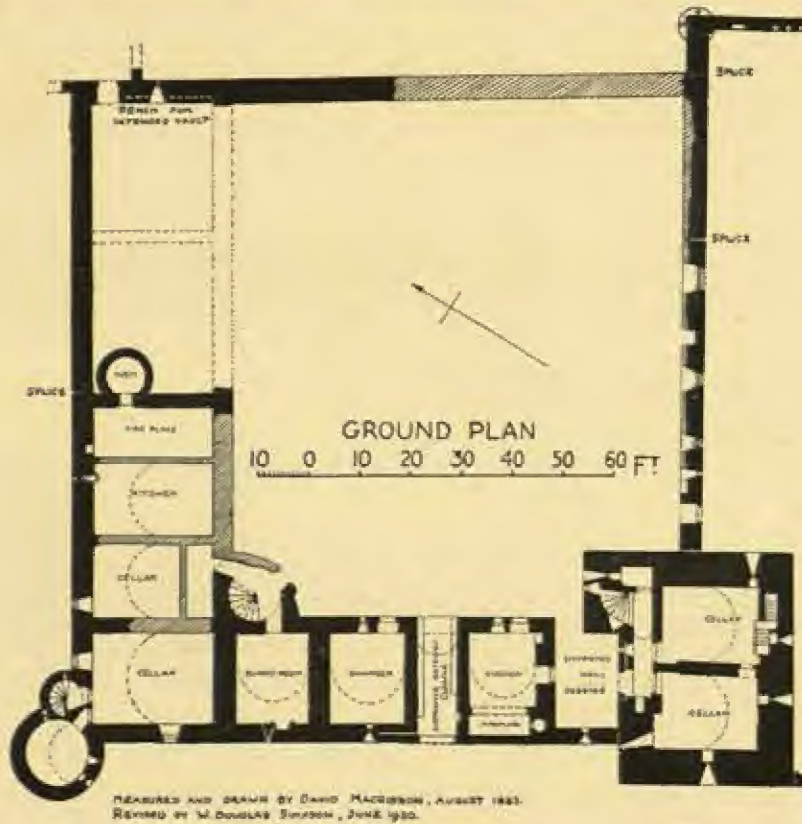


Fig. 4. Edzell Castle: Ground Plan. (Parts destroyed are hatched: parts never completed are in outline.)

6 feet 6 inches in length and 3 feet in breadth, having a gun-port in its semicircular northern end.

From the corridor access is obtained to two cellars of equal size, about 19 feet by 14 feet, both vaulted, which occupy the basement of the main building. The door to the eastern cellar, however, has been blocked, and access to this cellar is now obtained only through its neighbour, or by means of the usual service stair, which descends in two flights at the south-east corner from the hall above. The sole light to these cellars,

¹ For the removal of this "yett," post 1764, see *Land of the Lindsays*, 2nd ed., p. 69.

save for a single loophole on the north side of the inward one,¹ is afforded through the large gun-ports by which their outer walls are pierced on all fronts. Communication between the cellars is obtained by a door at the south end of the partition wall.

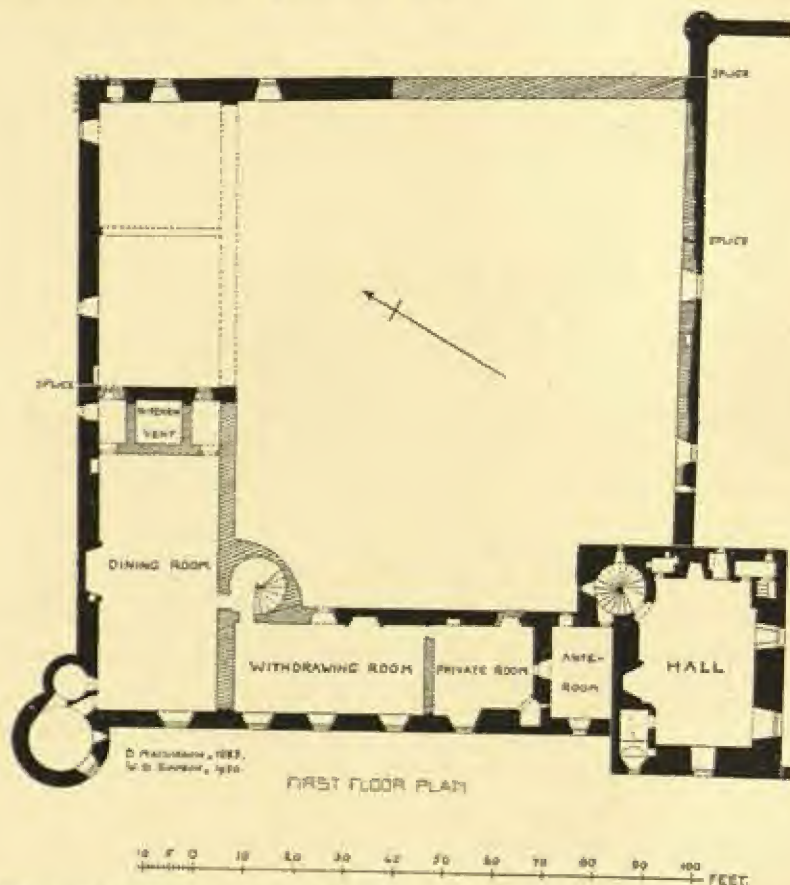


Fig. 5. Edzell Castle: Plan of Main Floor. (Parts destroyed are hatched: parts never completed are in outline.)

The spiral stair in the limb of the building (fig. 8) is designed on an ample scale, the steps being 5 feet long. It circles up without break to the battlements, forming a segmental interior projection from the first floor upwards. Over the entrance corridor the stair is carried on a handsomely wrought diagonal arch. Up to the first floor the steps have a rise of 4 inches, thereafter the rise is increased to $8\frac{1}{2}$ inches. In

¹ In its present form this loophole is subsequent in date to the building afterwards erected against this front of the Tower-House.

all there have been seventy-two steps, but the upper ones are broken down,¹ and the wall-walk thereby rendered inaccessible. The stair is lit by a series of loopholes on all three fronts.

The first floor of the tower is wholly taken up with the hall—a handsome apartment measuring 33 feet in length by 23 feet 6 inches in breadth, and 15 feet 6 inches in height, as indicated by the joist-holes in the walls. To the south it is lit by two large windows, of which the eastern one is provided with side benches; to the west is another large window, while in the north wall is the fireplace, measuring 7 feet in

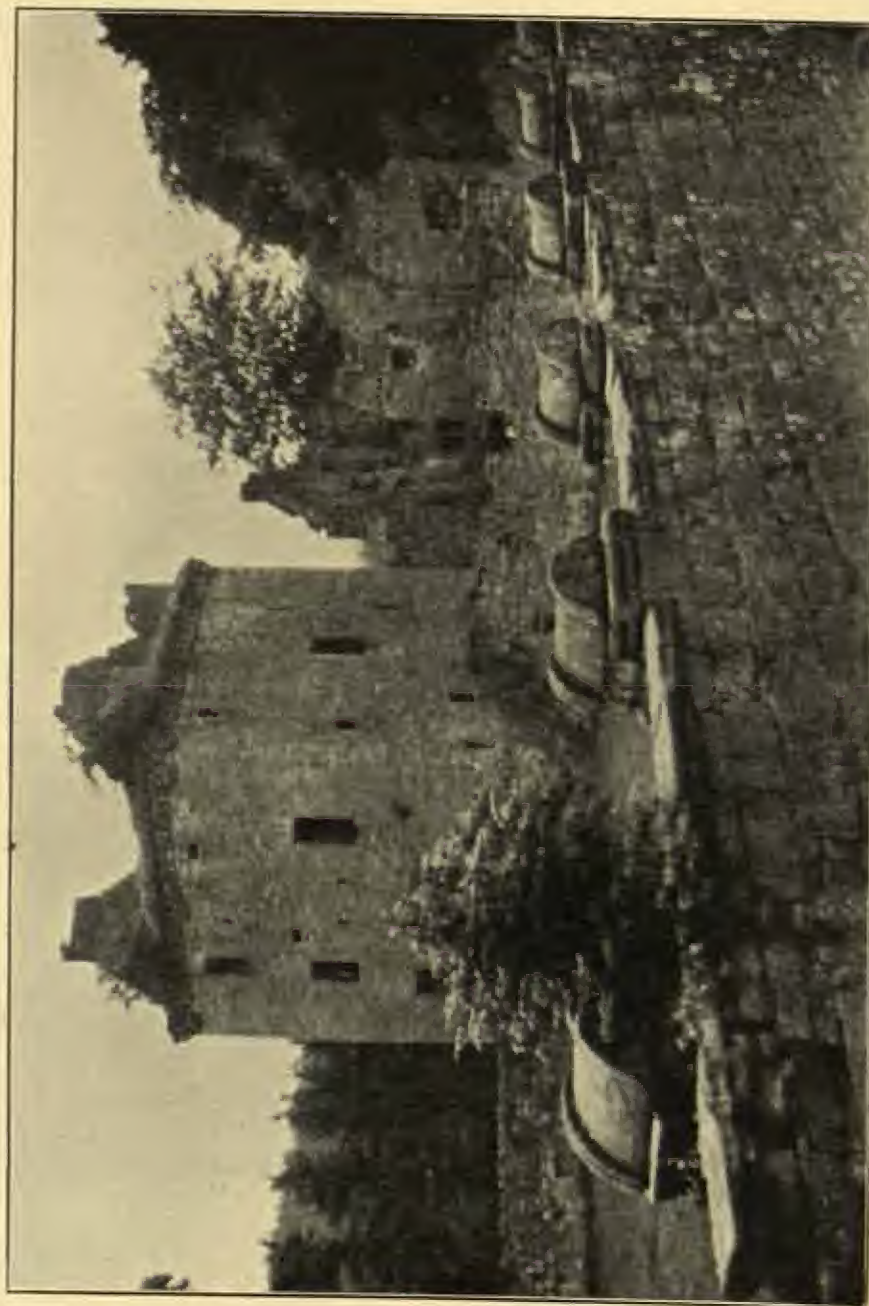


Fig. 6. Edzell Castle: General view from west. (From a photo *circa* 1890.)

breadth. In the east end wall is another, smaller fireplace—a fact which indicates that this end of the hall had been screened off: joist-holes on the north side and in the end wall show that the screen reached a height of 6 feet 9 inches. The screens are lit by a small window, facing east, and are provided with a garderobe at the north end. At the opposite end is a mural closet, forming a servery into which opens the stair from the cellarage below. At the north-west corner of the hall is a large vaulted chamber, measuring 11 feet in length by 5 feet 6 inches in breadth, lit by an ample window in the west wall, and having a tall aumbry adjoining this window to the south. This closet has chases for inserted shelving.

It is curious that in a tower of good size and otherwise so well appointed no kitchen should have been provided. A certain amount of cooking could of course be done in the screens; but no doubt a proper

¹ They were damaged thus by a great storm on the night of 11th October 1838.—*Land of the Lindsays*, 2nd ed., p. 62.



[Photo T. L. Smith.]

Fig. 7. Edzell Castle: The Tower-House and later buildings, seen from a window of the Summer-House; Pleasance wall in foreground.

kitchen would be included in the barmkin outbuildings which preceded the mansion now attached to the tower. That such outbuildings existed is proved not only by universal custom but also because, although the west outer wall of the mansion butts as a whole without bond against



[Photo N. S. Cowan.]

Fig. 8. Edzell Castle: Newel Stair in Tower-House.

the tower, in the latter sundry bonding tusks exist which are clearly an integral part of the building, and must have been designed to engage the original barmkin walls. A similar bonding tusk on the east side, within the present garden area, perhaps indicates where the barmkin wall returned on this front.

The upper floors of the tower-house are now inaccessible, and cannot therefore be particularly described: but the arrangements have evidently been similar to those on the hall level, although doubtless these upper



[Photo F. R. Cowan.]

Fig. 9. Edzell Castle : Main Door to Tower-House.

storeys were subdivided by wooden partitions—as, indeed, the position and frequency of the fireplaces, garderobes, and windows clearly indicate.

Externally and internally the architectural features of the tower are fully characteristic of its age. The masonry is good coursed rubble,

the quoins and the dressed stones at the various openings being all very carefully wrought. The wide-mouthed horizontal gun-ports in the basement measure 3 feet or more in breadth. The main door (fig. 9) is elliptically arched, measuring 7 feet in height by 4 feet 2 inches in breadth: it is wrought with the usual quirked and filleted roll and hollow moulding of the period. In the hall fireplace (fig. 10) the same mouldings are repeated, continuous on jambs and lintel, while over the latter is a cavetto hood-mould. Generally the windows show a



[Photo G. A. Clark.]

Fig. 10. Edzell Castle: Fireplace in Tower-House.

3½-inch chamfer, but those in the west wall have a filleted edge-roll within a hollow, the roll being cut flush on the jamb; and in the breasts of these windows are pierced gunloops, in all except one case arranged in pairs. The gunloops have an outer redented splay of 12 inches. These windows are of identical pattern with those found in the newer mansion, and were evidently altered to their present form when it was built: the disturbance involved in the surrounding masonry is clearly visible. The door into the mural chamber at the north-west corner of the hall (seen in fig. 10) has a sunk flattish ogee roll, of a type later than the other architectural detail in the tower, and doubtless the result of some alteration. A good deal of the old hard grey plaster still adheres to the interior walls throughout the tower.

The bartisan (see figs. 6 and 7) is very interesting. It boldly oversails, and is carried out above two rows of corbels, each of two courses, the upper row being placed above the intervals between the lower corbels, which thus are purely decorative in character. At each angle are projecting rounds, the extra relief of these being gained by a third and lowest triple corbel course, continuous but divided by the quoin, which mitres into the uppermost member. In the middle of each front of the building is a projecting half-round of similar design. This whole composition is strikingly graceful and effective. It closely recalls the bartisan of the tower-house which forms the central and apparently the oldest part of Craignethan Castle, Lanark, which is said to have been erected by Sir James Hamilton of Finnart, Master of Works to James V. The plain dished runnels still remain, but the parapet has disappeared, and the entire wall-walk is now densely overgrown with vegetation. Within it rose the pack-saddled roof between corbie-stepped gables, east and west, each having a chimney breast protruding upon the wall-walk, which also was partly interrupted by the hall chimney-stack on the north front. From within the wall-walk also a square upper storey rose above the stairhead; in what way this was terminated does not appear, but probably there was an upper parapet, as on the tower at Dunnottar Castle.¹ The door from the cap-house to the wall-walk is on the east side; there are, of course, also the necessary small windows lighting the garret.

THE QUADRANGLE.

To the east and north of the tower-house, at a later period in the sixteenth century, has been appended a quadrangular mansion-house of the quasi-symmetrical design prevalent about that time (see plans, figs. 4 and 5). The tower-house is at its south-west angle, projecting 7 feet 3 inches westward; from this point the west wall of the quadrangle runs northward for 99 feet, being terminated at the north-west corner by a round tower, 19 feet in diameter, and of unusually bold projection, being less than one-fifth engaged with the adjoining walls. In the re-entrant angle between this tower and the north front of the quadrangle is placed a small segmental stair-tower or turret rising from the ground. This turret was an afterthought, as shown by the fact that it blocks a gunloop in the basement of the tower (see plan, fig. 4); but the uniform bond all through the external masonry clearly shows that the turret was added during the construction of the tower. From this turret the north front extends eastward for a distance of about

¹ There is record of a gilded vase on the summit of the tower.—*Land of the Lindsays*, 2nd ed., p. 60.

115 feet. Along the west and part of the north sides of the enclosure thus described apartments are arranged, but the eastern portion of the north wall and the east and south walls are merely curtains, no buildings apparently having ever been erected against them. It should be noted, however, that built-up windows and at least one fireplace void exist in the western part of the south wall, showing that rooms were at all events contemplated here.

The entrance into the courtyard (see view, fig. 6) is placed in the west front, at a distance of 31 feet 6 inches north from the tower-house. It is a plain arched portal, 6 feet 9½ inches in breadth and 10 feet 6 inches in height, with a 4-inch chamfer on the well-wrought jambs and voussoirs. Above it is a symmetrical composition formed by four panels with projecting mouldings, now empty but intended for coats of arms, two below, one in the middle, and a bigger one above, while on each side are large windows. No doubt the big uppermost panel would contain the royal arms. The portal was defended by a single gate with sliding bar: the present iron-studded wooden door, with wicket, seems to be of considerable age, but is unlikely to be original. Within is a vaulted trance, 23 feet in length, 7 feet 8 inches in breadth, and 12 feet 9 inches high, the floor being cobbled. Along either side is a stone bench, and in the south wall, near the portal, is the usual aumbry. The inner arch of the trance had no door.

On the ground level the west range of the quadrangle contains a series of four vaulted rooms, one being to the south of the trance. This room was a kitchen, and has a large arched fireplace, 12 feet in internal breadth and 5 feet 4½ inches deep, the chimney of which forms a conspicuous feature in the elevation of the west range (fig. 6).¹ On the south side is an oven. The kitchen has a door and a service window opening on to the courtyard: in its south wall are an aumbry and also another door, giving access to a small cobbled close or entrance hall, about 18 feet by 11 feet 8 inches, which has been left between the new mansion and the tower-house. The three rooms north of the trance present few features calling for notice: in the middle one is a fireplace, indicating that this apartment was probably a guard- or waiting-room in connection with the main stair beside it. From the end room access is obtained to a vaulted store, 12 feet 4 inches in diameter, in the round tower, and also by a separate door to the newel stair in its north re-entrant. The circular room in the tower is not domed, as might have been expected, but barrel-vaulted on a north and south axis.

The rooms on the north side are entirely ruined, but there is still

¹ In the plan of the first floor (fig. 5) the vent of this fireplace should have been indicated as a void in the thick portion of the west wall of the private room.

clearly identifiable another kitchen on a large scale, having at its east end a great fireplace, which seems to have been about 23 feet broad, being the full breadth of the north wing, and about 10 feet deep, with an aumbry in its north wall and on the east side a circular oven, 7 feet 6 inches in diameter. In the north wall of the kitchen is provided the usual slop-drain.

On the first floor the western half of the north range was occupied by the dining-room, a handsomely proportioned hall measuring 50 feet by 24 feet 4 inches, with two closets or "speak-a-word" rooms at the east end, one on either side of the kitchen chimney. In the north wall are an arched dresser and a fireplace 9 feet 2 inches broad, with a gible-checked aumbry in the west cheek. The jambs are plain: the lintel is gone. The only window in the two outer walls of the hall is on the west side: otherwise it must have been lit entirely from the courtyard. No doubt there would be a desire to avoid windows on the front, which is commanded at close range from higher ground. Adjoining the hall was the withdrawing-room in the west wing: this apartment is 38 feet in length and 18 feet in breadth, and has three windows in the west wall, with a fireplace and one window on the side towards the courtyard. Beyond the withdrawing-room is a private room, 20 feet by 17, with a window in the west wall, a mural closet at the south-west angle, and a fireplace and aumbry on the courtyard side. To the south of the withdrawing-room a small vestibule or ante-room was provided, resting on a wooden floor over the close formed between the new mansion and the tower-house. The secondary joist-holes and roof raggles are seen in the walls of the latter, and a loop in its staircase was enlarged into a door. This ante-room has a window on both sides.

The west range, as thus described, was only of two storeys; but the north range was carried up a storey higher, with a tall corbie-stepped gable on the west front. Above its vaulted basement the north-western angle tower provided three storeys of bedrooms. The main stair in the inner or courtyard angle has been a handsome structure, 5 feet wide.

Beyond the end wall of the kitchen and dining-room the north or outer wall of the quadrangle is built only up to the first-floor level, and in the loftier portion to the west tusks are left which clearly show that the further buildings designed in continuation to the eastward have never been completed. Precisely the same history is revealed by the tussing on the opposite or courtyard side. It should also be noted that from the northern closet at the east end of the hall a gunloop opens eastward in a way that could not have been possible had further buildings existed in this direction. The gunloop is contained in a blocked-up doorway provided to give access to the contemplated extension. Lastly,

the north part of the west outer wall is benched for the insertion, never carried out, of a vault in continuation of the northern range. At the north-east corner of the quadrangle a door is provided to give access eastward to some additional contemplated building or enclosure, of which the sole clues now available are tusks in the walls: above this door is a mural closet on the first floor, and over all there has been a parapet projected on plain single corbels.

The architectural detail of this quadrangular mansion presents not a few points of interest. On its west front the tendency towards a symmetrical grouping of the window openings is strongly manifest. These windows are all of a uniform pattern, moulded with a filleted edge-roll and hollow identical with that found on the windows evidently inserted at the same time in the corresponding wall of the tower-house. The same form of window is also found in the north-west angle tower. The gunloops provided in the basement have wide-mouthed horizontal splays, but are smaller than those in the tower-house: those in the upper levels are smaller still, and in some cases are redented. The north-west tower (see fig. 6) has had a projecting parapet carried out on small corbels of two filleted courses; this parapet was continued also across the small stair turret. The doorway to the main stair has been of elaborate design, with a massive cable-moulding and other small and thin, strip-like mouldings of a late type. Generally speaking, the masonry of the new building is very similar to that of the tower-house: in both, a peculiar mode of stugging the surface stones is noticeable.

As to the date of the quadrangle, it has been stated that the arms of David Lindsay, ninth Earl of Crawford, with those of his wife, Dame Catherine Campbell, and their initials and the date 1553, were formerly to be seen over the principal entrance.¹ In spite of this statement, however, I am persuaded that the quadrangle as a whole is a work of much nearer the end of the sixteenth century. In many points of its design it closely recalls that of Tolquhon Castle, built between 1584 and 1589.² The entrance front in particular, flanked by the old tower at one end and at the other end by the tall crow-stepped gable with its large window and round angle tower adjoining, and having in the centre the gateway with its coats of arms above, has a very strong resemblance to the entrance front at Tolquhon—except that at Edzell gatehouse towers are lacking. In other respects it resembles the mansion erected by the fifth Earl Marischal at Dunnottar Castle, even later in the

¹ Lord Lindsay, *op. cit.*, vol. i. p. 346. It is to be noted that no mention is made of this coat of arms in the "Views of Edzel Castle," published in 1838, with descriptive and historical notes by J. H. (the Rev. John Hutcheon, Episcopal clergyman at Stonehaven), nor does it seem to be *in situ* in his view of the west front.

² See my paper on this castle in *Aberdeen University Review*, March 1925.

century: for example, the hall, with its two closets on either side of the kitchen vent at the screens end, is closely paralleled at Dunnottar.¹ Again, the way in which the stair turret of the north-west tower is carried up from the ground, instead of being corbelled out, is decidedly a late feature: it is found at Tolquhon, and also at Boyne Castle, a structure of about the same date. The mouldings of the western windows are of a late type, while the redented form of gunloop used here is paralleled at Drochil Castle, left unfinished by the Regent Morton on his execution in 1581. As far as can be judged from the very fragmentary remains, the numerous and small mouldings of the main entrance must have resembled those of the great door at Huntly Castle, dated 1602.² And the hankering after symmetry in architectural elevations, so clearly revealed on the west front, is a manifestation of Renaissance influence, which in Scotland almost always bespeaks an advanced date. Taking all these facts into consideration, I am disposed to believe that no part of the quadrangle, which is clearly a work of one design, is likely to have been built much before *circa* 1580.

THE PLEASAUNCE.

The latest addition to the castle, made in the opening years of the next century, constitutes its most notable feature. This addition is the large garden enclosure or pleasaunce formed on the south side of the old tower-house and the adjoining wall of the quadrangle.³ Its builder was Sir David Lindsay, son of the ninth Earl of Crawford, and himself created a Lord of Session as Lord Edzell in 1597. In his youth he had travelled much abroad, and he grew up a man of wide interests, artistic sympathies, and enlightened taste, as evidenced by the extensive arboricultural undertakings which he carried out, and by the remarkable schemes which he set afoot for mining copper, lead, and alabaster in Glenesk—for which purpose he fetched over skilled German mineralogists—to wit, one Bernard Fechtenburg and one Hans Ziegler, "citiner of Nuremberg"⁴—to supervise the operations and to train his local workmen. We shall see that it was from Germany also, and at least

¹ See my *Dunnottar Castle*, 2nd ed., p. 44.

² *Proceedings*, vol. lvi. p. 142, fig. 5.

³ It is to be noted that there was a previous *viridarium* or pleasure garden at Edzell Castle which is on record in 1552.—Lindsay, *op. cit.*, vol. i. p. 346.

⁴ Lord Lindsay, *op. cit.*, p. 344. Hans Ziegler was evidently a personage of high standing in his profession, as appears from the wide powers—amounting to rights of barony—which were conferred upon him by Lord Edzell, including "the power to big and erect towns and burghs beside the said mines, to create baillies, officers, and other members within the samyn, to hold courts and do justice thereintil . . . for the space of twenty-five years."—(Contract dated 12th October, 1602).

in part from Nuremberg, that he got the idea of the singular series of sculptured representations with which he enriched his pleasure.

The garden enclosure (see plan, fig. 11) is a rectangular area measuring

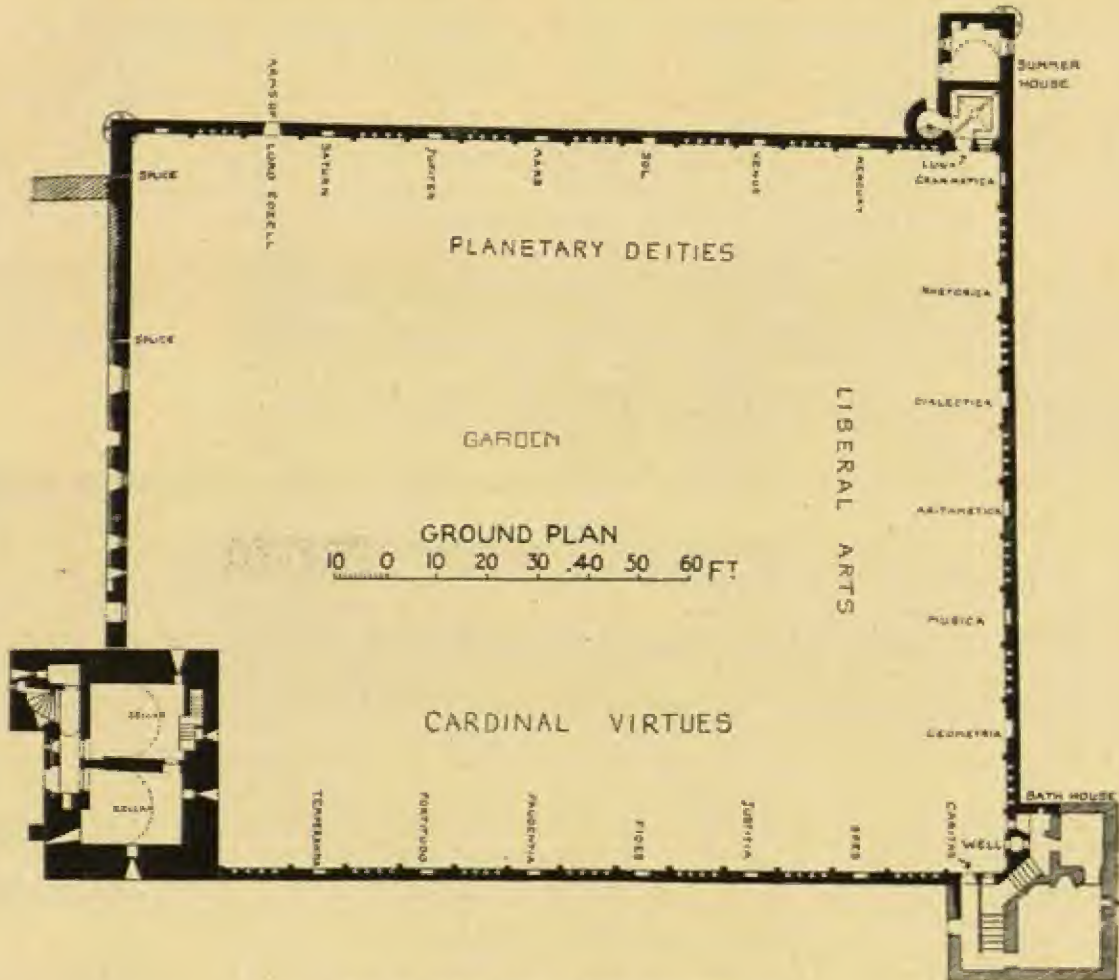


Fig. 11. Edzell Castle: Plan of Pleasaunce.

172 feet long (north and south) and 143 feet broad. It is entered from the quadrangle by a door in the north wall, close beside the tower-house, and there is also an exterior door near the north end of the east wall. It should be stated that the western portion of the north wall is of older construction, forming part of the quadrangular mansion; eastward of this follows a length of 32 feet of masonry which has been

spliced; the remainder of the garden wall is of homogeneous construction throughout. At the south-east corner is a summer-house, and at the south-west corner are a bath-house and a well. In its conception the entire lay-out is highly remarkable, considering the locality and the period; and in the details of its execution it is wholly without parallel in Scotland.

The enclosing wall measures 2 feet 6 inches in average thickness and is about 12 feet high to the coping. It is in the decorative treatment of this wall that the master-mason, and the noble owner who commissioned and probably inspired him, have achieved their triumph. The wall (see measured drawing, fig. 12, and view, fig. 13) has been divided

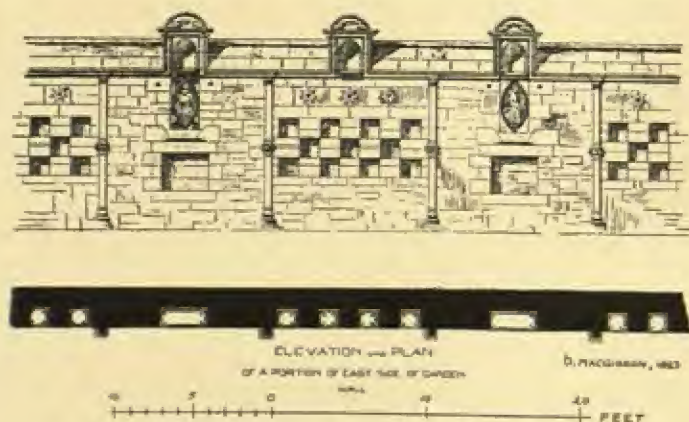


Fig. 12. Edzell Castle: Measured drawing of Pleasance Wall.

all round into compartments, each 10 feet in width, by a series of pilaster strips, 6 inches broad, and of about an equal projection. These pilasters, now at all events, do not rise from the ground, but spring from moulded bases, the under surface of which is about 9 inches above the present ground-level. The pilasters are finished above with caps of similar design, and each pilaster is divided midway by a moulded band, on which a version of the revived dog-tooth ornament, so commonly found in late Scottish work, is very boldly carved. It should be understood that without exception these pilasters, which have been wrought in two stones, each 3 feet 5 inches long, and united by the central band, are removed, and only the bases, caps, and bands remain. Their over-all height may be given as about 9 feet 5 inches. The caps range with a cornice showing corresponding mouldings, and above this the wall is finished with a sloped coping in two ashlar courses and a heavy roll-moulding over all. In the centre of each compartment framed by these pilasters the

cornice is returned round a semicircular headed niche, elliptical in plan, and measuring 1 foot $1\frac{1}{2}$ inch in greatest depth, 1 foot $7\frac{1}{2}$ inches in breadth, and 1 foot $11\frac{1}{2}$ inches in height. The base of each niche is formed by a projecting cushion, moulded in various ways. Presumably these niches were designed to contain busts. Above the cornice over each niche is a semicircular pediment carved with a scroll, but all these scrolls appear to be left blank. In the south wall all the pediments are



[Photo C. R. Marshall.]

Fig. 13. Edzell Castle: Pleasaunce Wall and Summer House.

missing. On the west side there are no niches and the wall is finished with a plain cornice (see fig. 7). This may be the result of a repair, or perhaps the design here was never completed. The north door into the garden is perfectly plain. That on the east bears on both sides a heavy edge-roll on jambs and lintel, the latter being constructed as a straight arch, with joggled voussoirs. Over this door, also on both sides, is a large shield of a Renaissance type bearing the Lindsay of Glenesk and Forbes arms impaled, thus: dexter, quarterly, first and fourth, a fess chequy, for Lindsay; second and third, a lion rampant debruised of a bendlet, for Abernethy;¹ sinister, three bears' heads muzzled couped, for Forbes. On the dexter side are the initials $\begin{smallmatrix} S \\ D \\ L \end{smallmatrix}$

¹ Sir David Lindsay of Crawford married Mary, heiress of Abernethy, in 1324.

for Sir David Lindsay (Lord Edzell), and on the sinister side those of his second wife, ^D_{I F} for Dame Isabel Forbes. Above is a plumed helmet, and the proud motto DUM SPIRO SPERO; below is the date 1604. Of the two panels thus identically carved, that on the inside (shown in fig. 14) is in much the better preservation, and is a most beautiful piece of sculpture. Over these coats of arms is a broken pediment. At the north-east corner of the garden is the base of a boldly overhanging angle turret, consisting of seven courses of heavy continuous corbels. The turret has been 7 feet in diameter, and in its base two gunloops are pierced downwards, one on each side of the outer angle of the wall.

On the east side of the garden sixteen compartments are defined by the pilasters: the end one to the south is occupied by the door and window of the summer-house; while the third one from the north contains the door just described. Along the south wall are thirteen compartments, of which the west one is taken up by the well-head. Along the west wall the compartments number fourteen, the south-most here containing a door and window of the bath-house. The north wall, as already explained, does not form part of the garden design.

These compartments are treated in two alternating ways. In the first design the central part of the wall-space is taken up by a gigantic representation of the fess chequy of the Lindsays, consisting of three rows of recesses arranged chequerwise, four, three, and four. These recesses are 1 foot 3 inches in breadth, the same in height, and a foot in depth. The lowest row have now their soles at a height of about 3 feet 6 inches above the present level of the ground. Above them in the upper part of the wall-spaces the seven-rayed mullets which the Edzell Lindsays adopted from their predecessors, the Stirlings of Glenesk, are carved in relief—the centre of each mullet being pierced through or into the wall.

The design which alternates with these contains in its lower part one large oblong recess, 3 feet broad, 2 feet 5 inches high, and 1 foot 1½ inch deep. Above the lintel of this is a straight relieving arch, neatly wrought in three stones; and over the centre one of these stones is set a moulded panel. These panels are carved in bas-relief with symbolical representations which form a subject of the very highest artistic and historic interest. On the east side the panels are vesica-shaped, measuring 3 feet 3 inches in height and 2 feet in greatest breadth: the northmost panel here is left blank. On the south side they are rectangular, set underneath semicircular arches resting on pilasters of various patterns, the over-all dimensions being about 2 feet 4 inches in breadth by 3 feet 4 inches in height. On the west side the sculptures form plain rectangular

panels, 3 feet 3 inches in height and 2 feet 6 inches in breadth. The vesica panels have various floriated and scroll-like ornaments, while the



(Photo I. I. Smith.)

Fig. 14. Edzell Castle: Coat of Arms over north-east Door to Pleasaunce, inner side.

square panels on the west side have foliaceous upper borders and a baluster on each side with an escaping spiral ornament midway in its height.

On either side at the head of each panel a round hole is pierced in the wall; the holes similarly pierced through the mullets have previously been mentioned; and perforations of the same type are found also in some of the chequer pattern recesses. It has been seriously suggested that

these various apertures were provided "for the extrusion, if needed, of arrow, harquebuss, or pistol";¹ but they are utterly unsuited for any such warlike purpose, and would seem to have been purely decorative in character. At present they afford ideal building places for the swallows: doubtless such was their original function. The mullets are in general not pierced through but open into mural pockets which seem clearly designed for nests.

All the mural recesses thus described—both those forming the fess chequy, and the larger single ones in the alternative design—have their soles hollowed out as if to contain flower-beds, which was probably their purpose.²

The exterior aspect of the garden wall (see fig. 7) is perfectly plain, save for the cornice moulding and the pediments, which on this side are filled with scrolls and sundry forms of foliage.

The sculptures on the panels consist on the east side of portraits of the Planetary Deities; on the south side the Liberal Arts are shown, and on the west side the Cardinal Virtues. More than forty years ago these deeply interesting sculptures were described in detail by the late Dr James Gammack,³ to whose careful account I am glad to acknowledge my indebtedness.

I.—SCULPTURES ON E. SIDE, FROM N.: THE PLANETARY DEITIES.

I. SATURN (fig. 15) is a bearded figure clad in a tunic with short sleeves and finished below in a zig-zag border on the points of which are beads. What has been thought to be a necklace is merely an illusion conveyed by the short crisp curls of his beard. He wears a belt with a long straight sword. The figure is represented as moving to the left, with face turned towards the spectator: in his left hand he grasps a male baby by the leg, while in his right hand he carries a scythe. His left foot is shown as amputated, and the stump is supported on a wooden limb. Behind him a goat springs to the left. Over his head is the astronomical sign. The child which he clutches is an allusion to the myth of Saturn slaying his own children: the scythe implies that he is the patron of agriculture; the goat represents the constellation *Capricorn*. The amputated limb is not

¹ Lindsay, *op. cit.*, vol. i. p. 347.

² Similar recesses, but not hollowed out, are found on the west side of the forecourt wall at Tolquhon Castle, Aberdeenshire.

³ *Scottish Notes and Queries*, vol. i. pp. 150-1; vol. ii. pp. 17-18. The sculptures are also described in Jervise, *Land of the Lindsays*, 2nd ed., pp. 419-21. Very good lithograph drawings of all the sculptures were published in vol. i. p. clx, of the *Registrum de Panmure*, edited by Dr John Stuart in 1874.

uncommon in sixteenth- and seventeenth-century portraits of Saturn, and is probably due to the fact that this God was regarded as the patron of cripples and diseased folk.

2. JUPITER (fig. 17), also identified by his astronomical sign, is shown as a full-length figure, facing the spectator, and clad in quasi-classical armour. He is draped in the *paludamentum*, and carries a long sword over his right shoulder, while his left hand rests on a heater-shaped shield with volutes, on which is a spirited representation of a kneeling archer, below whom, in the apex of the shield, were formerly seen two fishes, now lost by reason of a flaking in the stone. The archer is *Sagittarius*, and the fishes represent *Pisces*.

3. MARS (fig. 19), likewise recognisable by his astronomical sign, wears a short beard on his chin only, and is clad in a quaint combination of mediæval and classical armour, of which more anon. He is shown as advancing to the left, and holds in his right hand a halberd, while to the left arm is a circular shield secured by two bands. From an enriched baldric slung over his shoulder is hung a curved one-edged sword of oriental pattern. At his feet is a springing ram, representing *Aries*. On the blade of his halberd are carved the initials, now almost weathered away, I.B. These have hitherto been regarded as being probably those of the sculptor; but the real explanation, as we shall see, is vastly more interesting.

4. SOL (fig. 21), again with the astronomical sign, is a grave and bearded figure with his back to the spectator and receding to the left, with his head turned back over his right shoulder. In his right hand he carries a flambeau, while his left rests on an oval shield, on which is displayed the sun in glory. The shield rests on the head of a lion crouching behind. Dr Gammack suggested that "the retreating figure may symbolise the shortening day when the sun has entered into *Leo*." *Sol* is clad in a Roman cuirass, below which escape the skirts of a long flowing tunic. He wears a helmet or skull-cap encircled by a crown.

5. VENUS (fig. 23) is shown as a figure with long and agitated tresses, clad in a loose flowing robe having ample sleeves. She is advancing to the left, the sculptured figure exhibiting a certain sense of rapid energetic movement. In her right hand she holds a heart on fire (now defaced), and in the left a fletched dart with barb reaching over her shoulder. At her feet crouches a bull, representing *Taurus*, while above the burning heart is the astronomical sign.

6. MERCURY (fig. 25), a frontal figure with head turned to the left, is recognisable at once, both by the astronomical sign and also by the usual attributes of the winged helmet, sandals, and *caduceus*. He wears a cuirass and a *paludamentum* gracefully draped round his left arm, and



Figs. 15 and 16. Saturn, at Edzell and by Meister I. B.
[Photo of sculpture by C. R. Marshall.]



Figs. 17 and 18. Jupiter, at Edzell and by Meister I. B.
[Photo of sculpture by C. R. Marshall.]



Figs. 19 and 20. Mars, at Edzell and by Meister I. B.
 [Photo of sculpture by C. R. Marshall.]



Figs. 21 and 22. Sol, at Edzell and by Meister I. B.
 [Photo of sculpture by C. R. Marshall.]



Figs. 23 and 24. Venus, at Edzell and by Meister I. B.
[Photo of sculpture by C. R. Marshall.]



Figs. 25 and 26. Mercury, at Edzell and by Meister I. B.
[Photo of sculpture by C. R. Marshall.]

carries a sword at his right side, slung by a plain baldric over the left shoulder. On the right background below is *Virgo*, shown as a tiny draped female figure holding up a blossom, while on the opposite side are two equally miniature nude figures dancing, representing the *Gemini*. Scotch thistles form the floriated appendages to this panel.



Figs. 27 and 28. Luna, at Edzell and by Meister I. B.

[Photo of sculpture by C. R. Marshall.]

7. LUNA (fig. 27), a fully draped figure with long hair, facing the front, carries the crescent in her left hand and in her right hand a spear, probably in her aspect as Diana the Huntress. The feet rest on a much weathered object now scarcely recognisable, but shown in older drawings as a lobster, representing *Cancer*.

II.—SCULPTURES ON S. SIDE, FROM E.: THE LIBERAL ARTS.

1. GRAMMATICA (fig. 29). This figure now lies on the ground below the panel which it once occupied, and into which the figure of *Caritas* from the west wall has been inserted.¹ It is the partly mutilated representation of a fully draped female with long sleeves, teaching a

¹ From Hutcheon's description (*op. cit.*, p. 10), and from one of his plates, it appears that the alteration was made prior to 1838.

boy who sits at her knee and reads out of a manuscript. A birch rod appears to be tucked into her girdle. At her feet is a book: in the right background is another.

2. RHETORICA (fig. 30), a fully draped and cloaked female figure seated in a pompous attitude on a carved bench, facing the spectator. On each side of her head her hair hangs down over her breasts in a long plait. Her left hand is raised, and holds a scroll, while in her right hand is the *caduceus*. At her feet lies an open book.

3. DIALECTICA (fig. 31) is also a female figure fully draped and clad in a rich cloak. She is seated on a couch, and emphasises her argument by smiting her right fist against her left palm. On her head perches a dove, round her right forearm twines a serpent (probably in allusion to the wiles of dialectic), and in the left background at her feet crouch two frogs. Above her left shoulder is a small bearded figure clad in a philosopher's mantle, which has been thought to represent Socrates. There has been some carving, not now identifiable, on the other side of the panel, beside *Dialectica's* right shoulder. This figure is marked by much refinement and dignity.

4. ARITHMETICA (fig. 32), also a dignified figure, sits fully robed on a couch, holding in her left hand a book which rests on her knee and upon which she is writing, apparently with a quill pen. Evidently the sum which she is doing perplexes her, for her lower lip pouts: the expression on her face is exceedingly well rendered. In front of her is a table on which a book lies open. Her right upper arm is enclasped by a triple armlet. She has close-cropped and apparently curly hair. According to Dr Gammaeck, there were two figures in the background, with staves and satchels, but none of these details are now really distinguishable.

5. MUSICA (fig. 33) is an exceedingly graceful seated figure, robed like the others, and playing on a guitar. Beside her are shown a violin, a horn, another guitar, a harp, and what seems to be a music notebook, while her feet rest on two books. Unfortunately the head of this beautiful figure has been broken off.

6. GEOMETRIA (fig. 34) is a finely posed figure with full breasts, measuring with a pair of calipers a globe entwined by a serpent (the symbol of endlessness). Below her lie a pair of compasses, a set-square, and a bevel-stock, while her right foot rests on a couple of books. The background is an architectural one, and the figure wears a turreted or "mural" crown, doubtless meant to indicate the close connection between Geometry and Architecture.

In the panels of this series the name of the science portrayed is carved in bold relief on the arches of the canopies. That of *Grammatica*



Fig. 29. Edzell Castle: *Grammatica*.



Fig. 30. Edzell Castle: *Rhetorica*.



Fig. 31. Edzell Castle: *Dialectica*.



Fig. 32. Edzell Castle: *Arithmetica*.

[Photo C. R. Marshall.]

has been almost entirely broken away, and the word EDUCATOR has been added in modern incised lettering on the right border: but the first three letters of the original name, now wellnigh weathered away, may still be made out on the small fragment of the arch that remains.



Fig. 33. Edzell Castle: *Musica*.



Fig. 34. Edzell Castle: *Geometria*.

[Photo C. R. Marshall.]

III.—SCULPTURES ON W. SIDE, FROM S.: THE CARDINAL VIRTUES.

1. *CARITAS* (fig. 35). This panel is now built into *Grammatica's* niche on the south wall. It is a well-designed group of a benignly smiling female figure draped in flowing robes, having two naked children in her arms, while two others cling to her skirts.

2. *SPES* (fig. 36), a squat, heavy, and fully draped figure with a coif, facing to the right, with her left hand across her breast and the right hand extended. At her feet are an anchor and a "flaughter" spade.

3. *IUSTITIA* (fig. 37), a figure robed but with bare arms, and having short hair, carrying in her left hand the scales and in her right the sword. She is not shown as blindfolded.



Fig. 35. Edzell Castle: *Caritas*.



Fig. 36. Edzell Castle: *Spes*.



Fig. 37. Edzell Castle: *Iustitia*.



Fig. 38. Edzell Castle: *Fides*.

[Photo C. R. Marshall.]

4. *FIDES* (fig. 38), Christian faith, a robed figure with close-cropped hair, carrying in her right hand the chalice and in her left arm the cross, the head of which is now broken away. She stands beside a broken column on her left hand, and her feet rest on a writhing serpent, indicating the trampling under of evil disbelief.

5. *PRUDENTIA* (fig. 39), a robed figure with hair bound up, facing to



Fig. 39. Edzell Castle: *Prudentia*.



Fig. 40. Edzell Castle: *Fortitudo*.

[Photo C. R. Marshall.]

her right, holds in her hand a mirror in which her face is reflected. The idea suggested is that of self-knowledge. Round her left arm, in token of wisdom, a serpent is coiled, whose neck she holds in her hand.

6. *FORTITUDO* (in the sense of moral strength or hardihood of character), a figure (fig. 40), robed like the others, stands in a dramatic attitude with her hands outstretched, before a column with moulded base, the cap of which she has broken off, so that it lies upturned on the ground beside her.

7. *TEMPERANTIA* (fig. 41), a rather clumsy robed figure with her back to the spectator, holds a wine-cup in her left hand, into which she pours water from a pitcher on her right shoulder, while the wine-jar stands on the ground in front, and behind her is another tall pitcher.

In all these western panels the names are carved in relief at the foot of each subject, except in *Fides*, where the lettering is incised. *Spes* is ligatured in a curious way, and a later hand has incised the name again in the upper left corner.



Fig. 41. Edzell Castle: *Temperantia*.
[Photo C. R. Marshall.]

THE SIGNIFICANCE OF THE SCULPTURES AND THEIR *PROVENANCE*.

Taken as a whole, these sculptures form one of the most remarkable artistic monuments that Scotland can show. The interest and the value of such a work are never rightly understood or fully grasped unless it is considered in relation to the times which gave it birth. From this standpoint the garden wall at Edzell Castle gains an additional and indeed an altogether unique importance, because it is the enshrinement in stone and lime of a fleeting mood, a momentary frame of mind, never repeated, in Scottish history. The first struggle of the Reformation now was over: as regards the main problem that it had bequeathed, an equilibrium of sorts—brief and precarious it might be—had been achieved, since the Perth Assembly of 1597, in the uneasy relations between Church and State, between theocratic Presbyterianism and the Divine Right of Kings. Such an equilibrium in its political

implications meant stability and internal peace; a peace and stability confirmed and vastly strengthened, at the very moment when this Edzell pleasaunce was being built, by the Union of the Crowns in 1603. In the wake of peace followed two things of prime importance. The first of these was the rapid spread of the Renaissance, which up till now had gained but a tardy and a halting foothold in Scotland. The second thing was the expression, with an *élan* and a flamboyant exuberance hitherto unknown, of pride of wealth and *joie de vivre* on the part of an aristocracy enriched by the plunder of the ancient Church. Also in the wake of peace, among the ruling classes at all events, followed leisure—leisure to cultivate the ampler life that now displayed its exotic allurements so temptingly before them. From all these causes it came to pass that the opening years of the seventeenth century were a period of stately equipoise and dignified calm—a moment and a mood which have left their memorial to us in this wonderful pleasaunce at Edzell. Prior to the Union of the Crowns, we may say that such a work of art could scarcely have been conceived, let alone carried out, by a subject of the comparatively subordinate rank held by the laird of Glenesk: with the outbreak of the great wars of religion in 1637 an abrupt stop was put, for many a long day to come, to all such ambitious architectural efforts, however powerful the baronial patron might be.

It is evident on a study of the sculptured panels that the carvings on each of the three sides of the garden have been entrusted to a different mason. The weakest in design and execution are those on the west side: the figures are lumpish and the poses on the whole ungainly, except in the case of *Caritas*, where the grouping does not lack a certain grace and dramatic sense. The sculptures on the east side are done with much more spirit, and seem to have distinctly more of a grotesque or mediæval flavour about them than those on the other two walls, which partake rather of a classic dignity and repose. The relief of these eastern sculptures is lower than that of the others. By far the best of the series are the Sciences on the south wall: these are carved with a fine sense of classic elegance, and the figure of *Musica* in particular is beautifully posed. Clearly the mason who executed these subjects must have wrought from good designs. They remind one of the better examples of Roman provincial sculpture found in Britain, and like the latter are obviously the work of vernacular craftsmen interpreting good imported models.

Those who are well acquainted with the baronial and ecclesiastical architecture of Scotland in the early seventeenth century are aware that the district north of the Mounth and east of the Deveron was the

home of a peculiar kind of revived or—shall we say rather?—continued mediæval culture which seems to have been connected with the slow progress made by the Reformation and by Puritanism in these conservative parts, and with the adherence of the mass of the people here to an Episcopalian system that implied a less radical breach with the old tradition. The corbel-masks, bosses, gargoyles, heraldic supporters, and figure sculpture, so frequently found in the north-eastern castles of the period, thus partake of a peculiar vigour and grotesqueness which is thoroughly mediæval in character,¹ and which does not seem to be generally found in other parts of Scotland, unless perhaps in certain localities in the Western Highlands. In fact we have really to do with a distinct and highly individualistic regional school of art. Now those who are familiar with the Aberdeenshire figure sculpture of the period will, I think, agree with me that the panels on the east side of the Edzell pleasaunce seem to partake as strongly of this peculiar north-eastern flavour as it is lacking in the subjects on the other two sides. Bearing in mind that Lord Edzell chose his second wife from the great Aberdeenshire house of Forbes, it is by no means improbable that the craftsman of these eastern sculptures may have come from the same shire.

Anyone who has closely studied these carvings at Edzell will have become convinced, I imagine, that the designs from which their carvers worked were not the conceptions of a sculptor but were drawings in a book. Again and again one feels how the local craftsman is struggling to give glyptic expression to a model that was pictorial. The question therefore at once arises: Whence came the models? Now it will be noted that the armour of Mars, in its bizarre combination of Roman and mediæval elements, is quite unlike that in which the other panoplied figures on this wall are arrayed. It bears, however, a close general resemblance to the armour worn by the famous bronze statue (fig. 42) of Theodoric the Ostrogoth which the great Nuremberg master Peter Vischer executed in 1513 for the magnificent tomb erected for himself by the Emperor Maximilian at Innsbrück. The style of armour is characteristic of the German Renaissance. This resemblance seemed too strong to be accidental; and when taken along with the connections which Lord Edzell is known to have had with Germany (and indeed with Nuremberg itself) it appeared to me to point to that country as the source from which the designs for the sculptures were likely obtained. And this clue when followed up led to a remarkable solution of this most interesting problem.

The famous Augsburg painter and wood-engraver, Hans Burgkmair, who died in 1531, executed a series of very beautiful cuts of the Cardinal

¹ Cf. *Proceedings*, vol. lxiv, p. 93.

Virtues and Vices, and of the Planetary Deities.¹ In those of the



Fig. 42. Statue of Theodoric at Innsbrück.

the classics, or rhymes, etc., as the inscriber's fancy might suggest. The idea originated among university students, and spread rapidly through

Virtues and the Deities, the close correspondence in attributes, and even to some extent in posture, with the Edzell sculptures is manifest, and it is clear that the latter stand in the direct line of descent, though at several removes. Among the Virtues (reproduced in fig. 43) the pose and style of *Fides*, *Spes*, and *Prudentia* in the two series have much in common, when due allowance is made for the incomparable superiority of the German master's design and technique. The pilasters on each side of the arched niches in which Burgkmair's figures in this series stand are recalled by the corresponding features in the same series at Edzell. The attributes in the Planetary Deities correspond very closely, but the poses for the most part are different. Of the Liberal Arts Hans Burgkmair is not known to have executed any woodcuts.

During the last half of the sixteenth century, and well into the seventeenth, there flourished throughout Germany a remarkable vogue of the *Album Amicorum*, *Stammbuch*, or *Gesellenbuch*, as it was variously called. The *Album Amicorum* is nothing else than a glorified autograph album. In its simplest form it was a book made up of blank leaves, into which the owner got his friends to inscribe their signatures, coats of arms, mottoes and the like, with quotations from the Bible or

¹ Reproductions on a reduced scale will be found in *Bilder-Katalog zu Max Geisberg, Der Deutsche Einblatt-Holzschnitt in der ersten Hälfte des XVI Jahrhunderts*, Nos. 476-82, 490-6. The series of the Virtues are figured here from blocks supplied by the publishers of the above work, Messrs Hugo Schmidt, Munich.

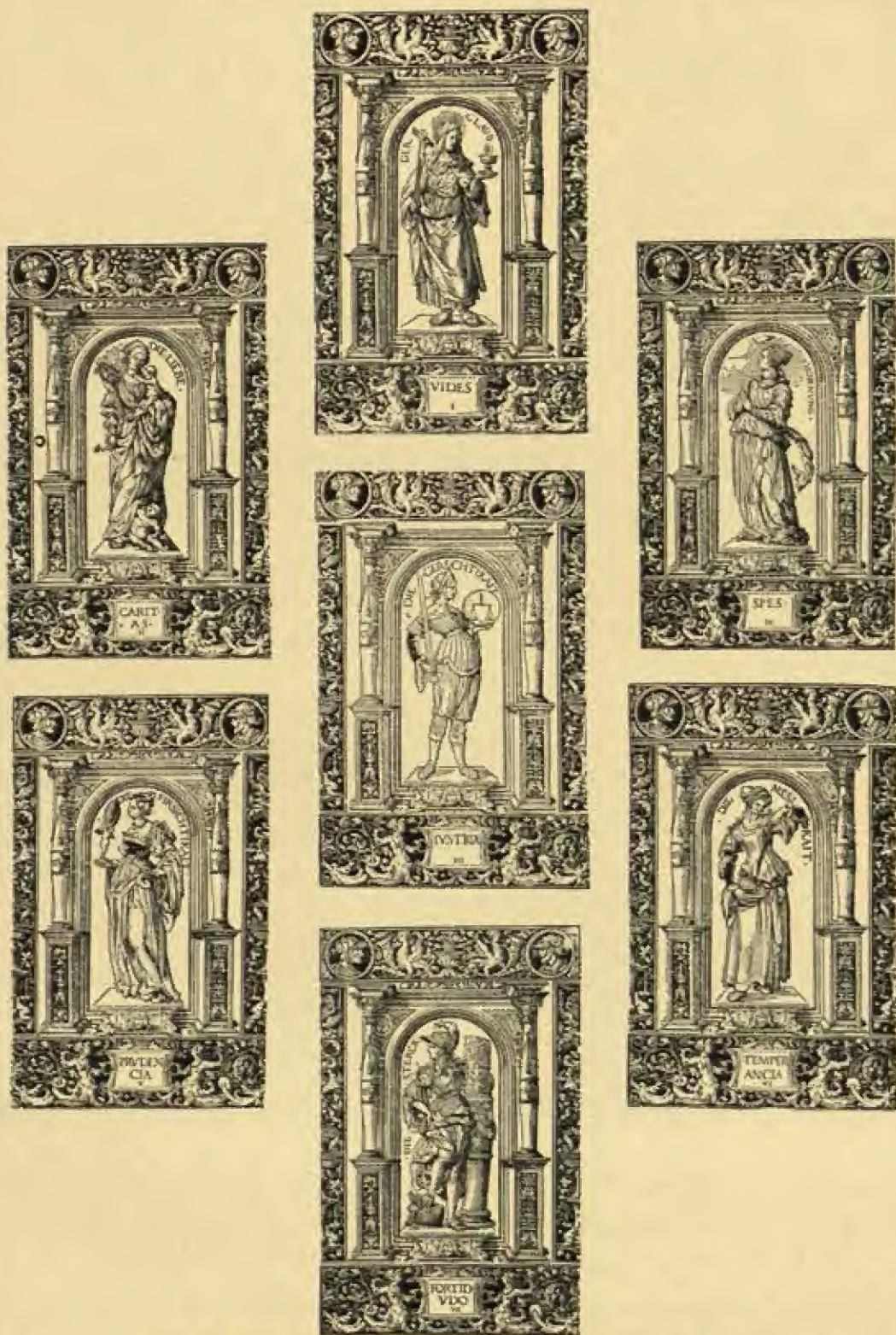


Fig. 43. The Seven Cardinal Virtues, by Hans Burgkmair. (Scale 1.)

all classes in an age much given to travel. And not only did the idea extend widely, it also grew in elaboration. Trained artists were soon employed by the wealthy to draw into such albums symbolical or mythological subjects often of much beauty and complexity in design. To meet the growing demand for such albums, the printing presses of those times began to turn out very elaborate volumes, in which woodcut borders sometimes of the most delicate beauty were printed round the blank pages on which the owner's friends were to inscribe their entries. Nay more, pattern books soon began to be published, containing woodcuts of biblical, mythological, or moralising subjects, with appropriate rhymes, to serve as copy for those who were invited to make contributions to such albums. From first to last the vogue of the *Album Amicorum* remained a characteristically German one. It scarcely spread at all into the Mediterranean countries or to the west of the Rhine: English examples seem to be unknown, but one or two Scottish albums have been recorded. It is also to be noted that within the bounds of Germany the greatest centre of dispersion of these *Stammbücher* was Nuremberg.¹

One of the rarest and the most charming of the pattern-books above mentioned is a quarto volume of 104 unnumbered leaves, published at Vienna in 1579, with the following quaintly curious title:—

Ain Newes

Uund Kunstlich Schönes

Stam̃ oder Gesellen Büchlein, mit dreyzehen
Historien, darinnen Hundert Wolgestelter, Gerissener
Und Geschnittener Figuren, sampt ihren darzugehörigen
Rechtmessigen Wolscandierten Reimen erklet: Welches
Büchlein allen Kunstliebenden sehr dienstlich und annem-
lich verhoffent sein wirdet, auch zu vielen sachen
zugebrauchen nützlich, wie dann in der
Vorred und Register zuer-
nehmen ist.

Hab ich David de Necker Formschneider von Augspurg,
nach bestem meinem fleiss und vermügen zugericht, geordnet in For-
men und Druck gebracht unnd verfertigt, in der Kayserli-
chen Hauptstadt Wienn in Osterreich, nach der Geburt
Ihesu Christi unsers einigen Erlösers und
Heylands im 1579 Jahr.

¹ See "The *Album Amicorum*," by Max Rosenheim, in *Architologia*, vol. lxii. pp. 251-308, where one specimen from Scotland is described: and for other Scottish examples, J. F. Kellas Johnstone.

The book contains pictures of the following subjects, with delightful rhymes in the quaintest old German, "darinnen sich der Mensch zuerlustigen hat":—the Four Elements; the Five Senses; the Seven Planets; the Four Complexions; the Seven Cardinal Virtues; the Seven Liberal Arts; the Nine Muses; the Four Seasons; the Seven Gifts of the Holy Ghost; the Seven Deadly Sins; Christ, Theology, Patience, and Death; the Ten Ages of Man and of Woman; the Twelve Apostles. The printer Necker, be it noted, came from Augsburg, the city of Hans Burgkmair, by whom the earliest series of the Deities and the Virtues, as found at Edzell, were designed. In his Preface Necker states that the designs of the pictures were drawn for his book by an otherwise unknown Antwerp painter, Dionysius Manhallart, and that from Manhallart's cartoons the woodcut blocks were made by Nicolaus Solis, a well-known Nuremberg engraver of the time, who died *circa* 1580.¹ (Again we note the sign-post pointing us to Nuremberg in our hunt for the *provenance* of the Edzell sculptures.) The purpose of the volume, as a pattern-book for contributors to an *Album Amicorum*, is clearly explained in the subjoined verses from a rhyming Introduction addressed "to the art-loving reader":—

"Diss Büechl ist gemacht darumb,
Dass es zu nutz und gutem kumb.
Und die zeit werdt mit nutz vertrieben.
Manich gut freunt darein geschrieben.
Sampt seinem Wappen zugedencken.
Einer dem anderen zuschencken.
Zu antter freundschaft wie geschicht.
Kunst bleibt noch ungelobet nicht.
Also David de Flecker spricht."

In this delightful book,² then, we have amongst other things a complete series of the Seven Planets, the Seven Liberal Arts, and the Seven Cardinal Virtues, just as they are shown on our garden wall at Edzell. The postures of the various figures do not always correspond very closely, but the attributes are the same, and the engravings with their rhyming explanations help to clear up much that is doubtful in the sculptures. They are certainly not the designs from which the

Alba Amicorum (Aberdeen University Studies, No. 165). The standard German work is *Die Deutschen Stammbücher*, by Robert and Richard Keil. See also E. Kelter, *Das Stammbuch des Andreas Chemnitzius, 1597-1620 (Sezte Beiheft zum Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten*, vol. xxvii (1909); and the same writer's *Jenäer Studentenleben*, forming the *Fünfte Beiheft* in the same series.

¹ See G. K. Nagler, *Neues Allgemeines Künstler-Lexikon*, vol. xix, pp. 101-4.

² My copy of this rarissimum is from the Rosenheim collection, bound by Rivière. See *Gilhofer und Randachburg* (Vienna), Catalogue 226 (June 1930), No. 207. I hope to discuss this *Stammbuch* more fully in the June 1931 issue of the *Aberdeen University Library Bulletin*.

Edzell craftsmen worked, but the connection between the two series is clearly no remote one. Some such pattern-book may well have come to Lord Edzell's notice, perhaps in the hands of one of his two German mining engineers, Bernard Fechtenburg and Hans Ziegler "citiner of Nuremberg"—the special home of the *Stammbuch*. Such an idea is by no means improbable, as by this time the habit of keeping an *Album Amicorum* had spread widely among what we may call the skilled artificer class.¹

One or two points of detail in comparison between Necker's engravings and the Edzell sculptures may briefly be noted. That the goat alongside Saturn represents Capricorn, and not (as was suggested by Dr Gammack) the animal which gave suck to Saturn's only surviving son, Jupiter, is proved by the German rhyme:—

"In meim lauff han ich lwenig rhu.
Bis in den Steinbock Wasserman,
Ihre Heuser durchlauffen han."

In the sculpture of Mercury the small female figure on the opposite side from the Gemini is identified by Necker's rhyme as *Virgo*:—

"Mein lauff ist schnell geschwindt und leicht.
Im Zwilling und der Jungfrau reicht."

Necker also confirms that the lobster on which the feet of *Luna* rests is meant to signify *Cancer*:—

"Die Erdt ist mir gantz underthan,
Dess ich den Krebs zum zeichen han."

When we turn to the series of the Liberal Arts we observe that at Edzell *Astronomia* is omitted. Above the well-head (see fig. 48) there is a recess in the wall which looks as if it might have been intended for a sculptured panel, but no record of such a thing exists, and it is unlikely that an *Astronomia* would have disappeared before Hutcheon made his drawings in 1838. Moreover, the figure of *Geometria* at Edzell, in addition to the instruments proper to her profession, which are shown also by Necker, is depicted as measuring a globe, upon which special task *Astronomia* is engaged in the woodcut. It therefore appears that the Edzell *Geometria* is held to include

¹ See Kell, *op. cit.*, pp. 10-11. At my request, Mr R. Flower, the Deputy Keeper of MSS. in the British Museum, has kindly looked through the *Stammbücher* there, and has discovered in Egerton 1216 illustrations of the Liberal Arts, and in Add. MS. 27579 an illustration of *Musica*. I have obtained photostatic reproductions of these drawings, but they show little or no resemblance to the corresponding subjects at Edzell.

Astronomy, as her mural crown makes no less probable that she includes also Architecture. Thus *Geometria* at Edzell seems to embody all the applied mathematical sciences as understood at the time. This series of the seven Liberal Arts of course forms the *trivium* and *quadrivium* of the mediæval academic course, and the order in which the subjects are depicted is that in which they were taken by the student.

My identification of the long, thin, now greatly weathered object tucked into *Grammatica's* girdle in the sculpture is confirmed by



Fig. 44. *Grammatica*, from Necker's *Stammbuch*. (Scale $\frac{1}{2}$.)



Fig. 45. *Caritas*, from Necker's *Stammbuch*. (Scale $\frac{1}{2}$.)

Necker's woodcut (fig. 44), in which a grim-looking birch-rod, as well as a *ferula* of the spatular type seen in action in Jan Steen's well-known painting of the village school,¹ figure with sinister prominence. It seems a formidable array of apparatus for the disciplining of one small and entirely unprotected child! The long and ample sleeves, with turned-back cuffs, which *Grammatica* wears in the woodcut, are closely paralleled in the sculpture; and it is interesting to note that in neither series is such a feature found in the other Liberal Arts. Probably it is meant to represent the garb of learning. Generally speaking, the subjects of this group show a less close correspondence between the woodcuts and the sculptures: but in both

¹ *Catalogue of the Exhibition of Dutch Art*, Burlington House, 1929, p. 117, No. 241. Dr Albert Hg, in his paper on Necker's *Stammbuch*, printed in *Blätter des Vereines für Landeskunde für Niederösterreich*, 1874, p. 208, took this *ferule* for a cook's ladle!

versions of *Musica* the note-book, the guitar, and the horn appear; and *Arithmetica* in both series is doing a sum on a tablet. It is interesting that in the Liberal Arts the symbolism at Edzell is generally richer than in Necker's plates: for example, there is nothing to correspond with the frogs, the serpent, the dove, and the small cloaked figure in the carving of *Dialectica*. I can meantime offer no explanation of the sources and significance of these additions.

Turning now to the Cardinal Virtues, we may say that of the whole series of sculptures the figure of *Caritas* exhibits the nearest approximation to the corresponding subject in Necker (fig. 45). The resemblance between the two portraits of *Justitia* is also very close. It is noteworthy that none of the three versions of this subject—in Burgkmair, in Necker, and at Edzell—depict Justice with her eyes bound. In the *Stammbuch* of Andreas Chemnitius¹ is illustrated a figure of *Justitia*, dated Christmas Day, 1602, which is likewise unblind-fold. It would be interesting to know at what period it became customary to show Justice with her eyes blind. The earliest instance which I have come across is on the title-page of Thomas Geminus, *Compendiosa Totius Anatomiae Delineatio*, printed by John Herford at London in 1545. As to *Fides*, both Burgkmair and Necker show that Dr Gammack was right in surmising that the broken staff held in her right hand is the shaft of the Cross, corresponding to the Chalice in her left. It is Christian faith that is here portrayed: in the words of a great modern hymn—

"For lo, between our sins and their reward
We set the Passion of Thy SON our LORD."

Or, as old David de Necker puts it in the Latin couplet that is set over each of his engravings:—

*"Voce Dei formata Fides, firmataque sancto
Numine, promissam re fore credit opem."*

His German rhyme makes just the same point:—

"Fides hie der Tressmaister heist.
Studiert auss dem heiligen Geist.
Tehrt seine Kinder tugentsam.
Den Glauben recht auff Christi nam."

The Edzell sculpture, it may be noted, agrees with Necker in giving *Fides* the cross in her left hand and the chalice in her right: in Burgkmair's engraving this is reversed.

¹ Ed. Kelter, *ut supra*, p. 37.

The *Spes* of the *Stammbuch* is a very different figure from that of the sculpture, but like the latter she has her anchor; this is not found in Burgkmair's picture, with which the bas-relief seems otherwise to stand in closer relationship. In all three versions *Spes* is depicted in an attitude of prayer, which is explained by the Latin couplet over Necker's plate:—

"*Quo Deus auxilium dubiis ferat ordine rebus
Spes silet, inque fide (dum ferat) orat opem.*"

As to the spade which accompanies Hope's anchor at Edzell, it is possible that a clue to its meaning may be found in the fact that in Necker's German rhyme the hope of the husbandman is placed next after that of the mariner:—

"*Hoffnung haben sie auff dem Meer,
Das glück bring in ein widerkeer.
Hoffnung hat der Bauer und Rehman.
Sie bringen Traydt und Wein darnon.*"¹

In the figure of *Prudentia* a considerable resemblance is noticeable between Necker's woodcut and the carving, both in the poise of the head and the braiding of the hair, and also in the way in which the serpent coils round the arm; but the pose of the lower limbs is different. An allusion to the significance of the figure contemplating her own features in a mirror is evidently contained in the following verses:—

"*Der wird mit schaden werden klag,
Ein Christ sey fürsichtig gnug.
Das lehrt in auch eygne natur,
Und Gottes Geist lautter und pur.*"

Necker's *Fortitude*, *Die Starcke*, is a powerful figure in casque and cuirass, who carries one-half of the shattered column on her shoulder, whereas in Burgkmair's plate the cap only is broken off and lies on the ground, as in the bas-relief: on the prostrate cap Burgkmair's figure has proudly placed her foot. It is curious to note that the Edzell *Temperantia*, with two vessels standing beside her in addition to the two in her hands, is the most elaborate of the three compositions.

After David de Necker's book had come into my hands I became so convinced, from my study of its contents, that my search for the prototypes of the Edzell sculptures was proceeding along the right lines, that I resolved now to tap the fountain-head of knowledge in regard to

¹ Cf. also the elaborate symbolism and rhyming in Heinrich Vogthen's woodcut of *Spes* (Gelsberg, *ut supra*, No. 1429).

the pious feelings which Sir David Lindsay, Lord Edzell, doubtless wished the exotic pomp of his *viridarium* to awaken in the minds of those who beheld with astonishment "all this oriental imagery and refinement under the shadow of the Grampian hills in the beginning of the seventeenth century"¹:—

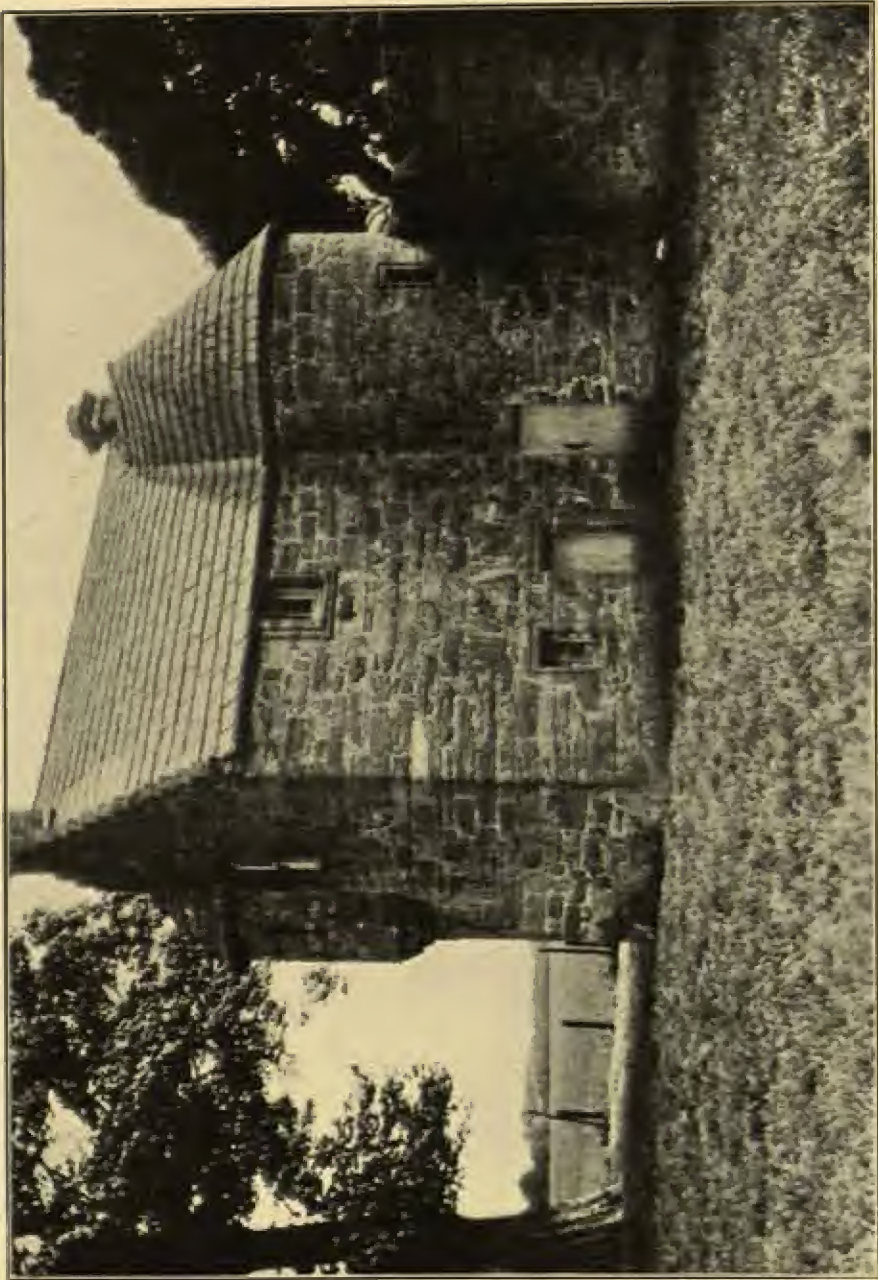
"Dir wirdt weisen diese Figur.
Der Menschen art, und die Natur.
Gottes Geschöpf und Wunderwerck,
Insonderheit darbey vermerck.
Wie Gott den Menschen mit verstandt
Begabt, und mit kunstreicher handt.
Das er Gottes Geschöpf und Sachen.
Nan ein Abconterfeyung machen."

THE SUMMER-HOUSE AND THE BATH-HOUSE.

There remain to be described the charming summer-house at the south-east corner of the garden, and the bath-house at its south-west corner. The summer-house (figs. 13 and 46) forms an oblong block measuring 26 feet 9 inches by 14 feet 6 inches, its long front lying in continuation of the south front of the garden. In the eastern re-entrant angle is set a round stair-tower. The main building finishes with corbie-stepped gables and handsomely coped chimneys, while the roof of the stair-tower dies into that of the main house. At the south-east angle a bulky round turret is corbelled out, the turret being deeply set into the building, and its pointed roof depressed below the skew-putt of the gable, all as commonly in late work. Instead of slates the heavy freestone slabs usual in Angus are employed. The upper windows have projecting mouldings and their breasts are pierced with triplet gunloops of varied design. In the turret and the stair-tower single gunloops are found. Among all these gunloops the redented splay, found on the west front of the castle, is prevalent. In each gable end, east and west (see fig. 13), is a large window having a quasi-classical tympanum with the initials of Sir David Lindsay, entwined in foliage.

There are two rooms on the ground floor (see plan, fig. 11), an outer one reached by a door in the north wall and an inner one entered from the garden. The latter room measures 9 feet 7 inches square, and has a groined vault with diagonal ribs meeting in a central boss. These ribs spring from corbels variously enriched, and meet in an ornate boss, now much damaged. The ribs are very massive, about 10 inches in breadth, and are designed in two orders, the outer order bearing quirked half-

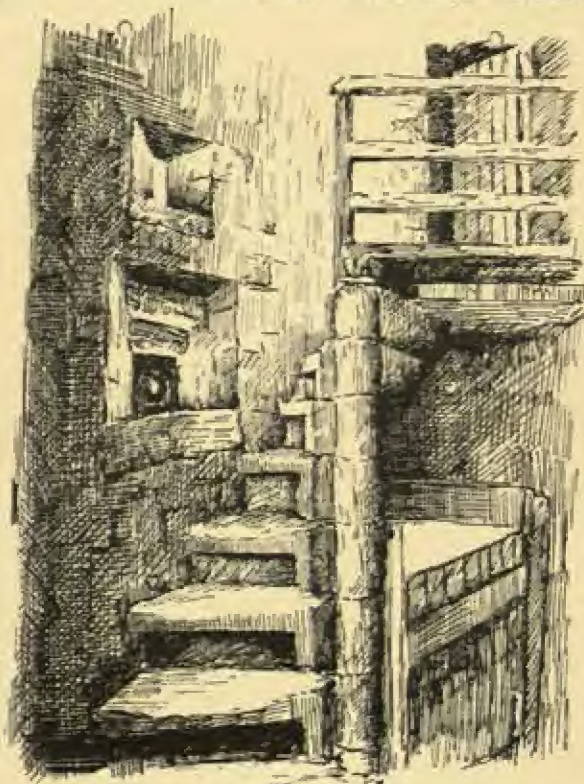
¹ J. Carrie, *Ancient Things in Angus*, p. 40.



[Photo I. L. Smith,

Fig. 40. Edzell Castle; Summer-House from N.E.

engaged lateral rolls, while the inner one has a frontal roll, broadly filleted. Round the sides of the room, except where interrupted by the door from the garden and that into the tower-stair, runs a modern stone bench. This room is lit by a single window opening from the garden. Window and door voids show inwardly a bold, half-



[J. L. Smith del.]

Fig. 47. Edzell Castle: Newel Stair in Summer-House.

engaged roll, stop-chamfered below. The masonry is excellent ashlar in two kinds of freestone—red and yellow. The outer room has a plain barrel vault, and is furnished with two windows, a fireplace, and an aumbry. Over all is a garret storey reached by the newel stair in the angle tower, which has an outer door of access on the east side. The newel stair (fig. 47) is 5 feet broad and is handsomely designed, the risers being hollowed out, and uniting with the newel by a short diagonal incurved face: the under edges of the steps are turned off in a broad curve.¹

¹ The difference in design between this stair and that in the tower-house (shown in fig. 8) should be noted.

The upper floor has been cut up by light partitions, and is otherwise modernised, but retains an old fireplace at the north-east corner, with an aumbry adjoining. The jambs of the fireplace consist of a heavy roll with a broad frontal fillet, carrying plain corbels on which is set the lintel. The door into the turret chamber, which is 7 feet in diameter, has the usual massive stop-chamfered edge-roll. This turret chamber



[Photo G. A. Clarke.]

Fig. 48. Edzell Castle: Well-head in Garden.

has had two gunloops pierced downward like those in the north-east turret of the garden.

In not a few of its details this summer-house recalls the castle of Muchalls in the Mearns, built in 1619-27.

The bath-house is now reduced to the merest fragments. It was excavated in 1855, on which occasion an account was communicated to our *Proceedings*.¹ Since that date the foundations then exposed have in great part disappeared; but from the not very satisfactory plan published at the time the arrangement of the structure has been restored, as well as possible, in fig. 11. It may be described as a rectangular building capping the south-west angle of the garden, the west wall of which here contains an ashlar-cradled well, 3 feet in diameter, and at present 15 feet deep from the sole of the bath-house opening to the top

¹ Vol. II. pp. 229-3. In the same volume, at p. 70, are described eight panels of carved oak, including representations of the Annunciation and the Crucifixion, which were formerly "in the windows of the great room or hall of Edzell Castle."

of the rubbish by which its lower part is choked. In 1855 it is described as being 25 feet deep and containing about 3 feet of water: on its being cleared out at that time the old bucket was discovered. At the top on either side the sockets in which the windlass framing was fixed may still be seen. There are openings from the well-head both into the bath-house and into the garden (fig. 48). The bath-house had measured about 35 feet by 33 feet, and contained one large and two smaller chambers, the large one having a fireplace with moulded jambs. On



[Photo I. L. Smith.]

Fig. 49. Edzell: Bridge near old Churchyard (view of north front).

the north side were stairs of access, with a door from the garden and another leading out to the park. Slop-drains were provided in the north and east walls.

The total destruction of this bath-house, down to its foundations, is to be explained only on the assumption that it has been deliberately pulled down for the sake of its materials. In this connection it is interesting to note that the quaint little old bridge which carries the road to the churchyard over a dry ditch, south of the castle, is almost entirely built of stones clearly plundered from the ruins, including a number of moulded fragments.¹ I shrewdly suspect that the bath-house has largely or wholly contributed to the building of this bridge.

¹ This bridge (fig. 49) is a structure of simple but very good design, with curved wing walls, and carefully wrought voussoirs, the outer portions of which are fluted. The dimensions are as follows:—Total length, 34 feet; breadth, 16 feet 1 inch; height of arch, 5 feet 4 inches; breadth of arch, 8 feet 3 inches; height to parapet, 8 feet 6 inches.

CARVED FRAGMENTS.

The following carved heraldic fragments are at present lying at the north end of the pleasure.

1. Portion of a shield with the Lindsay coat of arms.
2. One-half of a semicircular tympanum showing the plumes of a helmet, the letters I.L., and a scroll with the letters ENDV—evidently



[Photo I. L. Smith.]

Fig. 50. Edzell Castle: Heraldic Pediment.

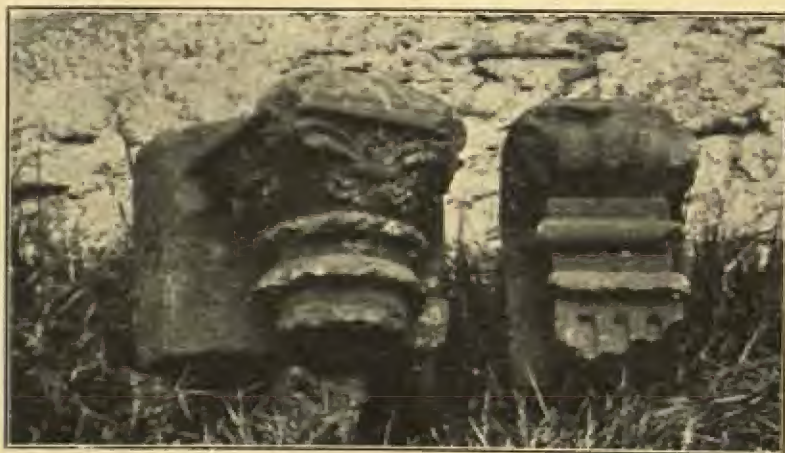
a portion of the Crawford motto "Endure Fort." The initials are those of Sir John Lindsay of Edzell (1648-71).

3. Fragment of a stone with a shield blazoned thus: dexter, the Lindsay arms, impaled with, sinister, quarterly, first and fourth, gyronny of four, and second and third, the lymphad of Lorn, for Campbell. These are the arms of David Lindsay, ninth Earl of Crawford, and his Countess, Catherine Campbell, whom he married in 1549. This stone may therefore be part of the coat of arms, said to have been dated 1553, which is described as having formerly existed over the main entrance gateway.

4. Triangular pediment (fig. 50) with the date 1664 and a shield showing the Lindsay arms, on either side of which are the initials of Sir

John Lindsay. Formerly this pediment had a fleur-de-lys on its apex and foliaceous scrolls on either side: but these features have been almost entirely battered away in recent times, and the pediment itself during the past summer has been broken in two, as this stone now serves as a convenient resting-place for lemonade or beer-bottles to be smashed by throwing stones at them—a favourite form of amusement among the crowds who now come in charabanes to visit the ruins during the holiday season. Such things are part of the price that must be paid for our twentieth-century's achievement of a mobile *demos*.

5. A much weathered stone bearing two shields, the upper of which



[Photo F. L. Smith.]

Fig. 51. Edzell Castle: Carved Caps.

shows the Lindsay arms, while the lower has those of Wishart, three piles in point: there are also the initials D.L. and M.W. and the date 1601. This stone came from the castle of Auchmull in Glenesk.¹

In addition to these heraldic fragments, there are lying against the east wall of the garden two caps (fig. 51) of large size and elaborate design, not corresponding to anything in the scheme of the wall. One is a cylindrical shaft with double necking, the upper cabled, and a broad cap rising into a square abacus: on each face of the cap is a fleur-de-lys. This cap probably came from the main door into the quadrangle staircase, where a base of similar dimensions and style is still *in situ*. The other cap is of quasi-classical form, and has surmounted a square shaft, fluted frontally.

¹ *Land of the Lindsays*, 2nd ed., p. 70. The position of Auchmull Castle is shown on the map, fig. 1. Nos. 3-5 in the above list of carved fragments are illustrated in the *Registron de Panmure*, vol. i. p. clix.

THE PRECINCTS OF THE CASTLE.

In Macfarlane's *Geographical Collections*¹ is included an interesting description of Edzell Castle, written by Ouchterlony of Guinde, *circa* 1683-1722.

"It is ane excellent dwelling, a great hous, delicat gardine with walls sumptuously built of hewen stone polisht, with pictures and coats of armes in the walls, with a fyne summer hous with a hous for a bath on the south corners thereof, far exceeding any new work of thir times. Excellent kitchine gardine and orchard with diverse kynds of most excellent fruits and most delicat. New park with felow deer built by the present Laird. It lyes close to the hills betwixt the water called the West Water and the water of Northesk, which joyning together make as it were a demi-island thereof. It hath an excellent outter court so large and levell that of old when they used that sport they used to play at the football there, and there are still four great growing trees which were the dochts. It is ane extraordinare warme and ear place, so that the fruits will be readie there a fourthnight sooner than in any place of the shyre, and hath a greater increase of bean and other graine than can be expected elsewhere."

In a "Description of the Castle of Edzell," published in the *Scots Magazine* for July 1804,² it is stated that besides the flower-garden

"there are other considerable gardens, on the outside of the works of the castle, and within the outer walls. There is a deer-park too, surrounded with a high wall, of great extent, on the opposite side of the castle."

What appears to be the remnant of one entrance to the deer-park still remains on the west side at a distance of 108 feet north-west from the round tower. The remains consist of the lower parts of two massive gateposts, 2 feet 9 inches thick, turned off on both sides with a 7-inch chamfer. The gate is 10 feet 10 inches wide. An exactly similar gate (seen in the foreground in fig. 3) occurs at a distance of about 1000 feet south-south-west of the bath-house; and from this gate northwards the foundations of the precinct wall (as shown in fig. 2) are clearly traceable northwards along the edge of the Den of Edzell to a point nearly opposite the bath-house. Southward also from this gate the old foundations are observed to underlie a modern dyke. At the north-east angle of the castle park is a third gate, 8 feet 6 inches wide, with plain gateposts, which also seems to be ancient. In Hutcheon's view of the north front a massive wall is seen in the forefront: this also may be part of the precinct boundary.

¹ Ed. Sir Arthur Mitchell, vol. ii. p. 30.

² Vol. lxi. p. 483.

THE DOVECOT.

At the large and fine farm-steading of Mains of Edzell, east of the Castle, is a dovecot (fig. 52) still in good preservation. It measures 21 feet 6 inches square, and is covered with a high-pitched packsaddle roof on an east-to-west axis, between corbie-stepped gables. At each



[Photo I. L. Smith.

Fig. 52. Dovecot at Mains of Edzell (view from north-west).

of two diagonally opposite corners, north-west and south-east, are large round turrets, resting on continuous corbelling in three filleted courses. These turrets doubtless once had the usual conical caps, but have later been cut down and covered with sloping roofs in continuation of that on the main structure. The fissile slabs of the district are employed instead of slates. At the eaves is a boldly projected cavetto moulding which is continued round the crowsteps in an unusual and very effective manner. About half-way up the structure is another projecting

cavetto stringcourse, stepped up over a large shallow rectangular recess midway in each front: on the west front this recess is of extra large size and is enclosed in thin projecting mouldings of a late type. The original doorway, gablet checked, is on this front: on the opposite side another doorway has been slapped out at a later date. There are two apertures for the birds in the west gable and one in the east gable, and below them projecting stone slabs are inserted to serve as perches. The interior contains the usual numerous, massively built stone recesses. Externally the masonry is of good, well-coursed freestone rubble, with dressed quoins. The dovecot has been harled and whitewashed, which gives an excellent effect. A lean-to annexe, apparently of considerable age, has been built against the east side.

Among those who have contributed photographs illustrating this paper, special thanks are due to my former colleague, Emeritus-Professor C. R. Marshall, M.D., LL.D., for the great amount of time and trouble which he gladly took in making the excellent series of photographs of the bas-reliefs. They will provide a permanent record of these unique sculptures, which are now rapidly wasting away. The photographs of the Sciences and the Virtues, where the originals are more weathered and obscured to a greater degree by lichen than are the Deities, were prepared on the spot for the blockmakers by Mr J. S. Richardson, F.S.A.Scot. I have also to acknowledge the assistance, in surveying the ruins, of Messrs N. S. Cowan and I. L. Smith, Aberdeen: permission to make the survey was readily granted by the Dalhousie Estates Office, Brechin. For the loan of books not available in this country I am indebted to the courtesy of Dr Christoph Weber, Chief Librarian of the Christian Albrecht University of Kiel.

MONDAY, 12th January 1931.

JAMES CURLE, LL.D., in the Chair.

On the recommendation of the Council, there were elected Honorary Fellows of the Society:—

Mrs M. E. CUNNINGTON, 33 Long Street, Devizes, Wiltshire.
Monsieur ADRIEN DE MORTILLET, 154 Rue de Tolbiac, Paris, 13^e.
Professor Dr ROBERT ZAHN, Director bei den Staatlichen Museen,
Honorar-professor an der Universität, Am Lustgarten, Berlin, C.2.

A Ballot having been taken, the following were elected Fellows:—

Rev. WILLIAM BARCLAY, M.A., Minister of St Magnus Cathedral, The
Manse, Kirkwall, Orkney.
Mrs J. C. CAMPBELL, Auchinellan, Balerno, Midlothian.
Sir JOHN T. CARGILL, Bart., D.L., LL.D., 10 Lowther Terrace, Glasgow.
WILLIAM COWE, Tweedville, Thorburn Road, Colinton.
WILLIAM FORDYCE, M.D., F.R.C.P.E., 17 Walker Street, Edinburgh.
WALTER OLIPHANT, S.S.C., 2 Royal Terrace, Edinburgh.
J. MILLER THOMSON, W.S., 5 St Colme Street, Edinburgh.

The following Donations to the Museum were intimated and thanks voted to the Donors:—

(1) By JOHN R. FORTUNE, Corresponding Member.

Leaf-shaped Arrow-head of white Flint, measuring $\frac{3}{4}$ inch by $\frac{5}{8}$ inch, abnormally thick; lop-sided Arrow-head of dark grey Flint, measuring $1\frac{1}{8}$ inch by $1\frac{1}{8}$ inch; sub-triangular Implement of grey Flint, measuring $1\frac{3}{8}$ inch by $1\frac{5}{8}$ inch, and part of another; triangular Knife of grey Flint, one side flaked and the other serrated, measuring $1\frac{1}{8}$ inch by $\frac{7}{8}$ inch; two broken Implements of grey Flint, and a fragment of a Jet or Shale Armlet, measuring $2\frac{1}{4}$ inches in length; found by the donor on Airhouse, Channelkirk, Berwickshire.

(2) By Mrs M. E. INVERARITY, Clermiston, Corstorphine, Midlothian.

Harp which belonged to Lady John Scott and hung in the Hall at Spottiswoode for fifty-one years. The sounding-box, which has two S-shaped openings on the front, measures 22 inches in length, exclusive of the head and foot, and 7 inches in breadth, and $3\frac{1}{4}$ inches in depth at the bottom. It has seventeen strings.

It was announced that the following objects had been purchased for the Museum:—

Rude hand-made Jug of reddish Pottery wanting the handle, and measuring $5\frac{1}{2}$ inches in height. The body is decorated with lozenge designs and the neck and shoulder by vertical lines, all incised; found under 4 feet of peat beside the Lady's Drive, 4 miles from Lerwick, Shetland.

Purse embroidered with silver gilt and silver thread. On the front is a crown with a crossed sword and sceptre below, and a wreath with the words GOD SAVE THE KING above; on the back a dove with a twig in its bill, perched on a rectangular object of indeterminate character, with a wreath above showing the scanty traces of a legend. The inside, which is lined with green silk, is divided into two sections. The front of the silver clasp is decorated with hanging hatched triangles, and on the top of it are the initials R.F. It belongs to the third quarter of the seventeenth century. From Aldbar Castle, Angus.

Quaich made of wooden staves, feathered, and bound by a silver hoop, with three lugs, each decorated with an engraved plate of silver; on the inside is a silver print bearing the initials E.G.; measuring $2\frac{1}{8}$ inches in diameter and $1\frac{1}{2}$ inch in height. The silver hoop which once encircled the foot is wanting. From Cairnfield, Enzie, Banffshire.

Steel Seal, bearing the arms of a family of Buchan, three garbs, and a crest, a galley, from Aberdeen.

Large Snuff-mull of Horn, with a hinged lid, a conical capsule at the foot and a thistle in front, all of silver. On the lid is the inscription PARLIAMENT HOUSE / FRIENDLY SOCIETY / INSTITUTED / 11th FEBRUARY 1797.

Waterworn Stone of irregular shape, with shallow indentations on opposite faces, measuring $4\frac{1}{2}$ inches by $3\frac{3}{8}$ inches by $1\frac{1}{8}$ inch. Curved Saw of grey Flint, flaked on both edges, measuring $2\frac{1}{8}$ inches along the outer curve. Knife of brown Flint, measuring 2 inches in length. Two Knives and a Blade of grey and white Flint, measuring $1\frac{1}{2}$ inch, $1\frac{1}{2}$ inch, and 2 inches in length. Part of a Borer of grey Flint, measuring $1\frac{1}{8}$ inch in length. Ten Scrapers of grey and brown Flint, measuring $1\frac{1}{8}$ inch by $\frac{3}{8}$ inch, $\frac{3}{8}$ inch by $1\frac{1}{8}$ inch, $1\frac{1}{8}$ inch by $1\frac{3}{8}$ inch, $\frac{7}{8}$ inch by $1\frac{3}{8}$ inch, $\frac{5}{8}$ inch by $\frac{9}{16}$ inch, $1\frac{3}{8}$ inch by $\frac{3}{4}$ inch, $\frac{9}{16}$ inch by $\frac{7}{8}$ inch, $\frac{3}{4}$ inch by $\frac{5}{8}$ inch, $\frac{9}{16}$ inch by $\frac{3}{8}$ inch, $\frac{1}{2}$ inch by $\frac{1}{2}$ inch; all found on Crichton House Farm, Ford, Midlothian.

Stone Adze, of rather irregular shape, measuring $6\frac{1}{2}$ inches long, 3 inches broad, and $1\frac{9}{16}$ inch thick, the perforation, which is near the butt end, being countersunk from both faces; found in Rodil Kirk-yard, Harris.

Bone Needle, $3\frac{1}{4}$ inches long, and a thin square plate of Jasper ground on the faces and edges and measuring $1\frac{1}{4}$ inch by $1\frac{1}{8}$ inch; found near an earth-house on Bernera, Sound of Harris.

Edinburgh Special Constable's Baton of Ebony, with a silver capsule at each end, measuring $5\frac{1}{8}$ inches in length and $\frac{3}{8}$ inch in diameter. On one end is engraved a crown and the Royal monogram G.R.; on the other end POL CIV, and round the edge 19 Ward No 2.

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Inverness-shire Forts: The Neglect of Fort-Augustus. Reprinted from *The Inverness Courier* of 18th and 25th November 1930.

(7) By A. D. LACAILLE, F.S.A.Scot.

Newgrange, Co. Meath. By R. A. S. Macalister, Litt.D. Dublin, 1929.

The following Communications were read:—

I.

THE EXCAVATION OF THE SCULPTOR'S CAVE, COVESEA,
MORAYSHIRE. By Miss SYLVIA BENTON, M.A., F.S.A.Scot.

The cave is situated $1\frac{1}{2}$ mile due north of Gordonstoun House, 6 miles north of Elgin, on the south shore of the Moray Firth. It takes its name from the so-called Pictish sculpturings outlined on the walls and published in *Sculptured Stones of Scotland* and *Early Christian Monuments of Scotland*.

When I obtained permission to see these in 1928, my companion, Miss Mollie Hair, called my attention to the fact that the floor was strewn with human bones. A knife stuck into the soil showed fat-looking occupation earth.

The late Sir William Gordon-Cumming, Bart., was sympathetic to our projects and readily gave us permission to make a further examination. A week's work at trial trenches gave us objects of Bronze Age and Roman date, and a hope of stratification, though we then had no idea of the richness of the deposit.

The following year Sir William and his son, the present Sir Alastair, with wonderful archaeological interest and a most unusual generosity, put at my disposal the tools of the Gordonstoun estate and a team of four men led by Mr Charles White.

When I started cave digging I sought in vain for technical advice. I should like to record here a few hints gained from my own experience.

A dump is always a nuisance, but inside a cave it produces intolerable confusion of mind. Everything was put on a barrow and taken into the daylight. Here we soon learnt that the top soil was full of small bronzes which were quite invisible inside. Once on a barrow the earth might as well be put through a sieve. The men used this even when examining material which could not be riddled, such as clay. Each received his portion on the sieve and knew whether he had examined it or not.

Layers had been made in haphazard fashion in the top stratum by burning and trampling on the various floors. Owing to their irregularity and the friable nature of the shingle, these were useless for stratification. It was, however, found that a spade inserted above a floor went through easily and safely. If it was an inch too high or too low considerable force had to be exerted, and there was great danger of breakage. In view of the frailty of the invisible bronze this observation was of the greatest assistance to us.

The same system was adopted when dealing with much of the clay. Layers of sand were interspersed among it, and the spade ran easily among these. Tearing lumps of clay to pieces hour after hour is a most severe test of human patience. In 1929 I had the advantage of the help of Mr David Wernham, who worked most manfully at these and other ungrateful tasks such as washing bones.

We missed him very much in 1930, when we dealt even more faithfully with the clay. Sir Alastair again gave me the same team, and, as in 1929, we worked eight hours a day for five weeks.

THE CAVE.

The cave faces north, looking across the Firth to the Caithness hills (fig. 1). The sun never touches it, and a north wind made sieving at the entrance an unpleasant proceeding.



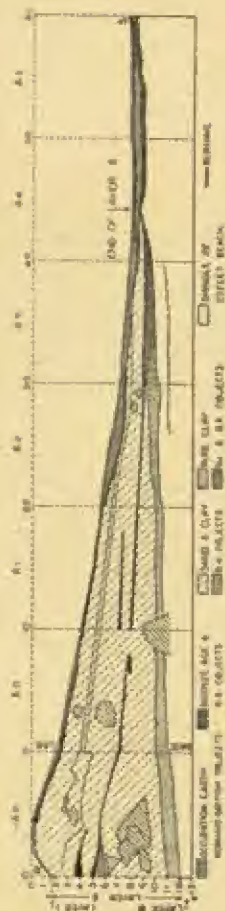
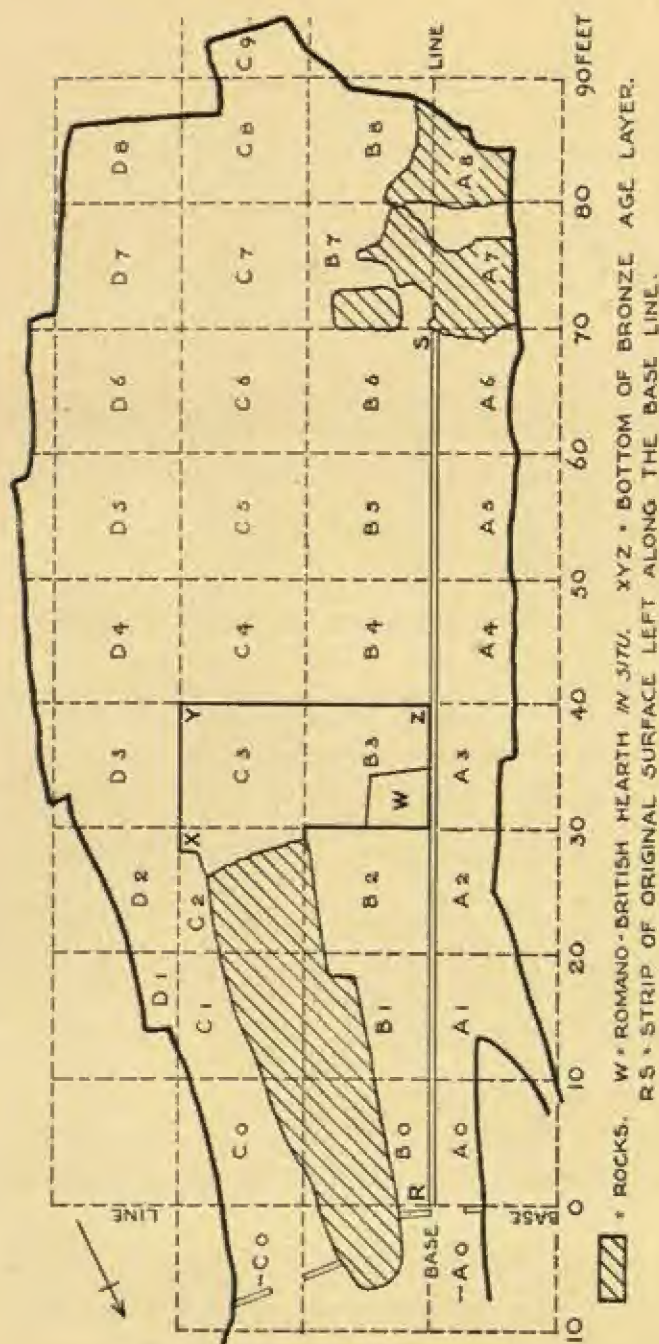
Fig. 1. Sculptor's Cave, Covesea, Morayshire.

Even now it is difficult to find and difficult to reach. It is cut off at high tide in stormy weather; on two occasions I wondered whether I should climb round without being drowned.

At the time of our earliest inhabitants, when the sea was little below the level of the passages, access could only have been possible at low tide. It must then have been a much less comfortable, though an even more secluded, residence than it is to-day.

The cliffs are red sandstone, and have been used for quarrying.

The cave itself, as shown on the plan made by Mr W. Whittet, is about 90 feet long and 40 feet wide (fig. 2). Since the plan was made we have cleared another 10 feet of roof. There is a passage behind going



some 30 feet into the rock. Progress along this is by rolling, and it has not been shown on the plan. The two passages at the entrance are separated by a wall of rock. Falls of rock have occurred at various times in the south-west corner and outside. The surface of the rock is friable and some of the old sculptures are much decayed.

RS is a strip of the original surface left along the base line, XYZ is the hard crust below the Bronze Age layer. W is a Romano-British hearth left *in situ* above the Bronze Age layer. Strips of layer 2 have been left along the inside wall of both passages and in - C0. A good deal of excavation has been done outside the cave. The height above sea-level was found by Major Sleight, R.E.

THE STRATIFICATION.

There are three main layers of stratification (fig. 3).

Layer 1, Occupation Earth.—This extends over the whole cave, varying in depth from 2 inches to 2 feet. It is composed of the black of many fires mixed with sand, gravel, and débris. As described in the introduction, it is divided by floors hardened by fire and trampling. The gravel was so loose that coins were found in every layer, and pottery from different levels joined. Objects from the Bronze Age to a Viking rivet were found in this layer, but objects from the second century to the fourth century A.D. predominated. Bronze Age objects were found in it chiefly at the back of the cave and along the east side. They were not found within 40 feet of the entrance (ABCD 4) to base line.

Layer 2, Clay and Layered Sand.—These are mixed in the upper part. This dotted division below is composed of glutinous clay. It contains laminations from outside the door to (A 2), and has this character in crevices of the rock beyond this point. From 25 feet to 40 feet from the base line it is full of burnt black marks, charcoal, and Bronze Age objects. The clay dies out where the beach slopes up, about 45 feet from the door.

The Laigh of Moray to the south has just such clay, more than 60 feet deep at the brick-yards on the Elgin-Lossiemouth railway. As the links between Lossiemouth and Covesea lighthouse are recently made land, it is conceivable that the Lossie, flowing through the Laigh, entered the sea $2\frac{1}{2}$ miles west of its present mouth. Probably the whole beach was muddy at this time when the sea had already started to retreat from the cave, and river and sea between them carried the mud into the cave. As the sea sank further, wind-blown sand covered the outside clay, but while (A 3) - (D 3) was still moist the Bronze Age people came and lived in it and trampled their goods and chattels into it. The black line of their smoke can be traced from (A 3) - (A 1) outside, where we

found pottery like (A3) - (D3) pottery. (A3) - (D3) is separated from the Roman layer by a hard burnt floor which has proved impenetrable to the smallest coin, although it is only about 1 foot below the surface. Near the door it is about 6 feet down. The intermediate sand was almost barren above the clearly defined Bronze Age level. Opposite the rock wall, between the passages outside, a fall of rock seems to have crashed down on the inhabitants, leaving at least one crushed skull.

Layer 3.—The shingle of the 25-foot beach was barren except for the black line and a few bones.

Explanation of Marking.—Throughout, letters and numbers in brackets refer to the divisions of the cave. See plan (fig. 2). Objects stratified in the Bronze Age layer are marked 2nd. Objects not so marked are from the mixed layer.

HEARTH (B3).—The only structure we were able to identify was an apsidal hearth, set with curbs round part of the apse (fig. 4). Much credit is due to Edwards, the workman, who found and cleared it on his own initiative. I believe it to be complete. It was at the bottom of the Roman period layer, and we assured ourselves that no coins lurked in the moist clayey sand in which the stones were set, forming a barren layer above the Bronze Age clay. The photograph of the hearth found at Traprain¹ seems very like ours. Mr Curle found another at Glenelg.² There were traces of other such pavings. I ought, perhaps, to mention a large flat stone evidently used as a hearth-stone before the Roman period. It has been left at the mouth of the cave.



Fig. 4. Hearth in the Sculptor's Cave.

BRONZE AGE.

GOLD (C9).—Four pieces of False Ring-money (fig. 5, Nos. 1 to 4). These are small penannular rings, composed of a bronze core covered with gold. They have pointed terminals. They are in very bad condition, the core is disintegrating, and splitting the gold. Similar rings have been found in Scotland at Balmashanner, Forfar,³ and at Fuarraig Glen, Banffshire.⁴ They are common in Ireland.⁵ They are too small

¹ *Proc. Soc. Ant. Scot.*, vol. liv. p. 62, in the second century.

² *Ibid.*, vol. lv. p. 63.

³ *Ibid.*, vol. xxvi. pp. 182 ff. National Museum.

⁴ British Museum.

⁵ Armstrong, *Catalogue of Irish Gold Ornaments*, plate xiv. pp. 271, etc.

to have been worn as rings, and some, when found, showed traces of string, as in the bronze ring No. 7. Such rings were sometimes carried on bracelets.¹ Measurements when found, $\frac{5}{8}$ by $\frac{55}{16}$ inch; weight, 3·5 dwts. (D2/2nd).—A similar ring (No. 5) was found hidden in the Bronze Age clay, beneath a shelf of the rocks. (B4/2nd).—Another (No. 6) was stratified in the Bronze Age clay. (B3/2nd).—A stratified piece of leaf gold, perhaps from another ring, is not illustrated.

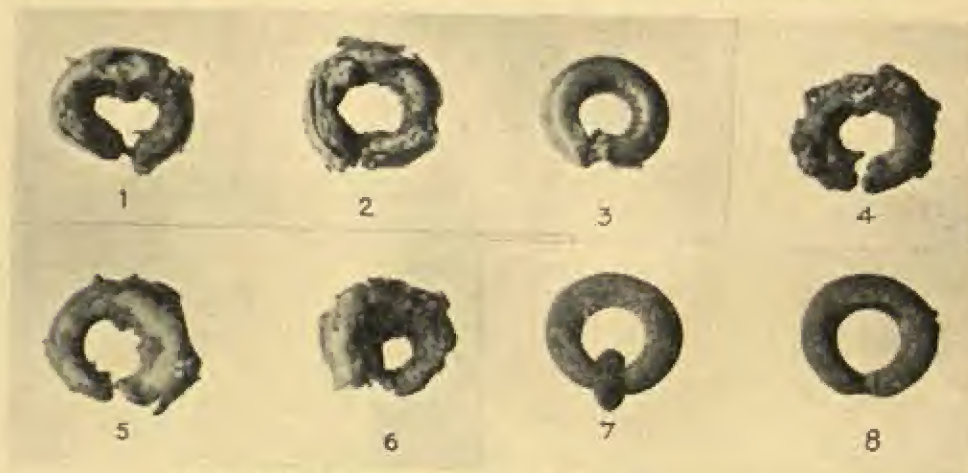


Fig. 5. Gold and Bronze Ring-money from Sculptor's Cave. ({}.)

BRONZE (C9).—Two bronze rings (fig. 5, Nos. 7 and 8) were found along with the gold-plated rings of similar shape. Diameters, 7 and 6 inch. Weight, 3 dwts. I have only seen one other example from Torostan.²

Bracelets (fig. 6 (D5)).—Penannular bracelet (No. 1), rectangular in section. The terminals are beaten up from the inside outwards to form irregular knobs. There are also two cast, horizontal ridges on the outside beside the knobs. A broken pair was found at Auchtertyre³ with three similar ridges. Otherwise I believe the Covesea pair to be unique in the British Isles. The type is certainly of foreign origin, coming originally from Upper Bavaria,⁴ but it went into Switzerland,⁵ and was there modified into forms almost identical with ours.⁶ (D4).—The

¹ British Museum, *Bronze Age Guide*, p. 54, from Ely, Cambs.

² In the National Museum.

³ *Proceedings*, vol. ix, p. 435. Not illustrated.

⁴ Childe, *The Bronze Age*, p. 119.

⁵ *Anzeiger für Schweizerisches Altertumskunde*, xxix., Taf. xiii., No. 1.

⁶ Landes Museum, Zürich, No. 1327—1 from the Lac de Zürich. It has three ridges at the end, but has also faint decoration all round. No. 1723—6 from Mörigen, which has one ridge on one side only. In shape it is identical with ours.

other bracelet of the pair (No. 2). (C3/2nd).—Four fragments (No. 3), probably of one bracelet.¹ These were stratified in the clay. The terminals are similarly beaten up from the inside. For analysis see p. 208. (A0/2nd).—One slightly swollen terminal was found above the Bronze

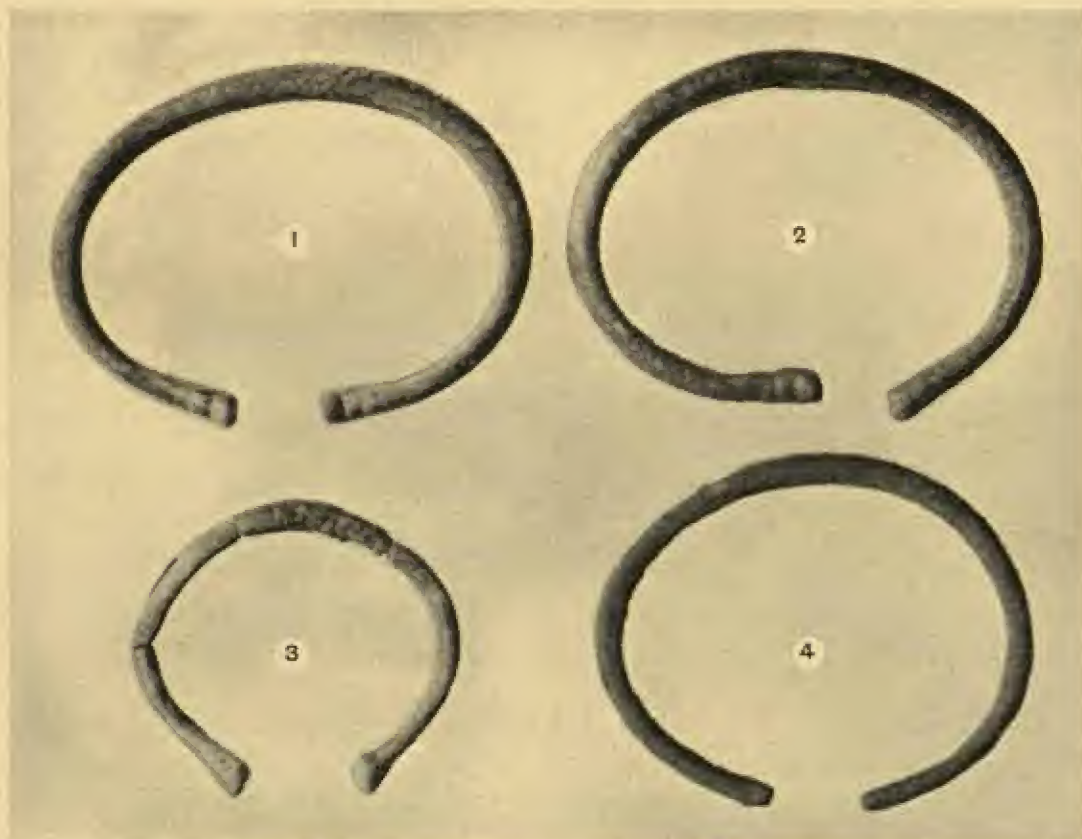


Fig. 6. Bronze Bracelets from the Sculptor's Cave. (h.)

Age layer, 3 feet below the surface outside the clay. This stratification is uncertain, and I attach no importance to it. (Not illustrated.) (D5).—Bracelet with very slightly beaten terminals (No. 4). Cf. Braes of Gight.²

I distinguish two types of penannular bracelets with swollen terminals. Both come originally from the Continent,³ but one seems to have been

¹ Cf. an unpublished example from Heathery Burn with a broken terminal. British Museum.

² *Proceedings*, vol. xxv. p. 125.

³ *A.S.A.*, vol. xxix., Taf. xli. and xiv., No. 3.

developed in Ireland, and it is generally found in gold—the Irish material. In these the terminals have been beaten up regularly all round into a mushroom. In Scotland they are most frequent down the west coast, though they are found on the east in gold.¹ Two in bronze have been found at Killin,² Perthshire.



Fig. 7. Netting Needle from the Sculptor's Cave.

The second is our type, with terminals beaten from the outside to form a knob. These are much closer to their foreign prototypes, and those in bronze are confined in Scotland to the counties of Angus,³ Aberdeen,⁴ and the shores of the Moray Firth.⁵ In England one occurs at Heathery Burn Cave.⁶ Thus we have a special kind of Swiss bracelet, concentrated in a limited area, and showing little or no signs of modification.

BONE.—It has been found convenient to take all the larger bone instruments together, though, as is suggested below, some may be of Roman age.

(D7).—Instrument said to be a netting needle, probably made from the metatarsal of the red-deer (fig. 7). The hole is a natural nerve-hole which has been utilised, perhaps increased. The depressions down the centre are probably both natural, but they are increased artificially. There are lateral cuts down both sides of the depression and the point is worn. Several similar instruments, but without perforation, and retaining the outside of the bone and part of the process, were found at Heathery Burn Cave,⁷ and one other is in the Pitt Rivers' Museum, Oxford, from Jordan's Farm. Our specimen was found in the mixed layer, buried below a shelf of rock, along with

¹ From Hillhead in the National Museum. For Ireland see Armstrong, *op. cit.*, plates xvi. and xvii.

² Anderson, *Scotland in Pagan Times. Bronze Age*, p. 149. The fragment from Traprain appears to be of this type. *Proceedings*, vol. xlix. p. 163.

³ Balmashanner, *Proceedings*, vol. xxvi. pp. 182 ff.

⁴ Braes of Gight, *Proceedings*, vol. xxv. pp. 135 ff. Rehill, *Proceedings*, vol. i. pp. 138 ff.

⁵ Auchtertyre, *Proceedings*, vol. lvii. p. 154. Anderson, *op. cit.*, p. 147; Wester Ord, *Proceedings*, vol. lix. p. 115, No. 6; Conage, Pettie, *Proceedings*, vol. lv. p. 299. A bracelet is also mentioned as coming from Conage, Banff, which I have not been able to trace.

⁶ In the British Museum. Not illustrated. It has one broken terminal. This shape in gold occurs at Allon. *Proceedings*, vol. lvii. p. 164 (fig. 21), and at Patcham.

⁷ British Museum, *Bronze Age Guide*, p. 49.

the bone slice (fig. 9, No. 5). (C 3/2nd).—Similar, but much smaller (fig. 8, No. 1). The transverse cuts are mostly on the point. Stratified in the clay.

We should, perhaps, notice that these tools have the shape of a leaf-shaped sword. There is a bone reproduction of a hafted dagger in the

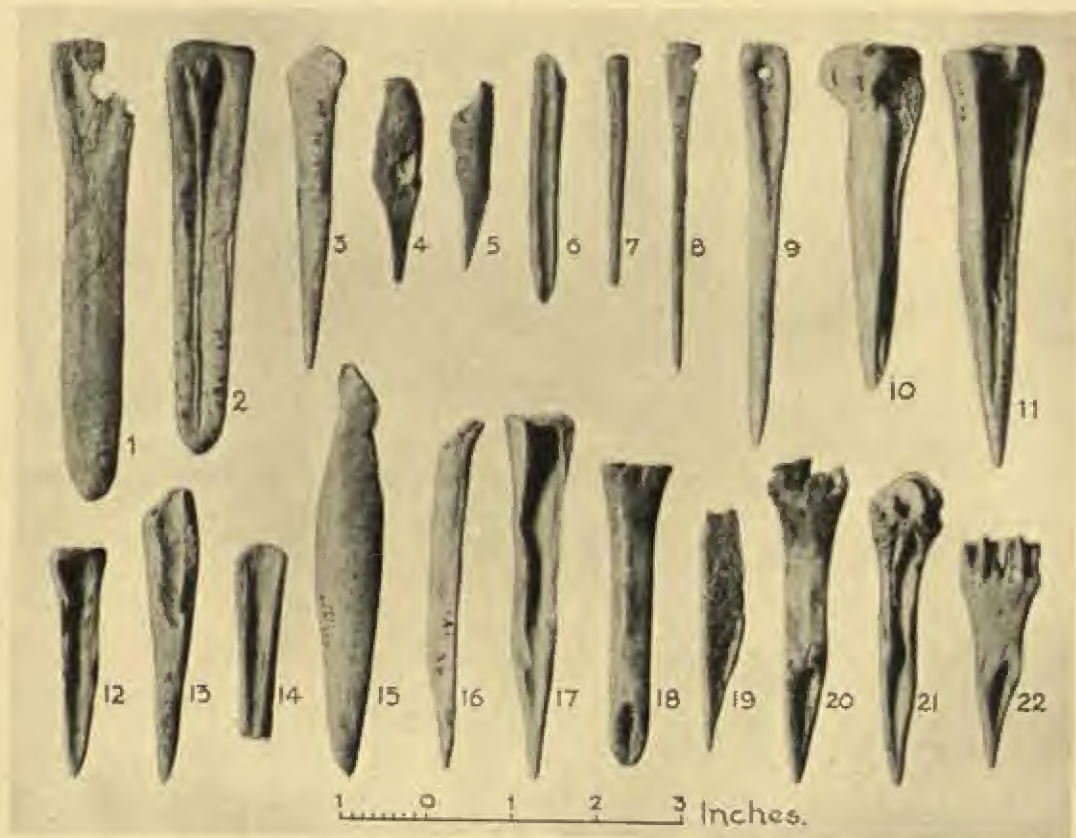


Fig. 8. Bone Scoops and Awls from the Sculptor's Cave. Nos. 1 to 14 and 17 from the Bronze Age layer.

Landes Museum in Zürich, said to be late-Neolithic, but one is tempted to suggest that it is typologically of the age of swords.

Fig. 8, Nos. 1 to 14 were found stratified in clay, No. 17 was found at the back of the cave. Nos. 2, 6, 10, 11, 12, 14, 17 are of a very simple type. The bone, generally a metatarsal or a metacarpal, is split up the middle, one end is pointed and the inside may be polished (Nos. 2, 6, 10, 11, 14), or may not (Nos. 12, 17). I could not find this type among the hundreds of bone instruments in the National Museum. Professor Childe showed me one lately found at Skara Brae, but said that the

type was unusual there. It resembled No. 2, and both may have been used for dressing skins. This type is found in the Swiss lakes.¹ I believe that Nos. 6 and 14 are different ends of the same or similar spatulate instruments. There is a close parallel in Cambridge from Robenhauseu.²

No. 9 is a strong needle with a close parallel from Heathery Burn,³ but there is one not unlike it in the Beveridge collection in the National Museum. No. 16 was found rather doubtfully stratified and is itself indeterminate. No. 15 has a freakish resemblance to a human face. Nos. 7 and 8 are common in any collection of bone instruments. The Broch people seem to have had two main types of instrument. (1) They took any splinter and pointed it, of which 4, 5, 13, 16, and 19 are instances. Such instruments are liable to occur anywhere at any time. (2) They cut off either end of a bone and pointed it, as in the case of 18, 20, 22.⁴ It is notable that these did not occur in the Bronze layer and that the bisected type did not occur among the unmixed objects of the Roman period.

List of Instruments in fig. 8.—1. (C3/2nd) Netting needle? Probably metatarsal of red-deer. 2. (-B 0/2nd) Scoop. Probably proximal or anterior portion of metapodial of red-deer. 3. (D2/2nd) Punchers. Lateral metacarpal equus. 4 and 5. (B3/2nd) Prickers. 6. (C3/2nd) Scoop. 7. (B3/2nd) Pin. 8. (B4/2nd) Pin. 9. (D2/2nd) Needle. 10. (-B1/2nd) Pricker. Probably a fragment of the proximal end of the metacarpal of a red-deer. 11. (B4/2nd) Pricker. Anterior fragment of the proximal end of the metacarpal of a red-deer. 12. (-B0/2nd) Scoop. Metacarpal of a red-deer. 13. (-B1/2nd) Pricker. 14. (C3/2nd) Scoop. 15. (C9) Pricker. 16. (-A1/2nd?) Pricker. 17. (C7) Pricker. 18. (C6) Scoop: sheep or goat. 19. (C1) Pricker. 20. Not stratified. Pricker. 21. (C0) Pricker. 22. (B10) Pricker.

I am indebted to Miss D. M. A. Bate of the Natural History Museum for these identifications. I take this opportunity to thank her for this and many other kindnesses.

Bone Needle.—(C9). This is a long, finely polished needle pointed at both ends (fig. 9, No. 8). For the shape, cf. a bronze needle at Nidau-Steinberg.⁵ There is nothing like it from Scottish sites. (D3/2nd) Similar needles (fig. 9, Nos. 6 and 7).

¹ Keller, *Lake Dwellers*, plate iii., No. 20, from Mellen, has been cut short, but otherwise resembles No. 2. Steckborn, No. 10993, 40, 41, in Zürich, resemble Nos. 11 and 12. I have not been able to trace any other examples from the British Isles. I have seen one from Macedonia and some from Thrace (unpublished information by the kindness of Miss Lamb).

² Ethnological Museum, No. 24, 667 A.

³ *Loc. cit.*

⁴ Wace and Thompson, *Prehistoric Thessaly*, p. 148, from Tsangli and Tsani. It is common at Glastonbury and in the Zürich Museum.

⁵ Keller, *Lake Dwellers*, plate xxxvi., No. 13.

(D7) *Perforated Slice*.—This has been attributed to the Bronze Age because of its connection with the netting needle. Nothing exactly

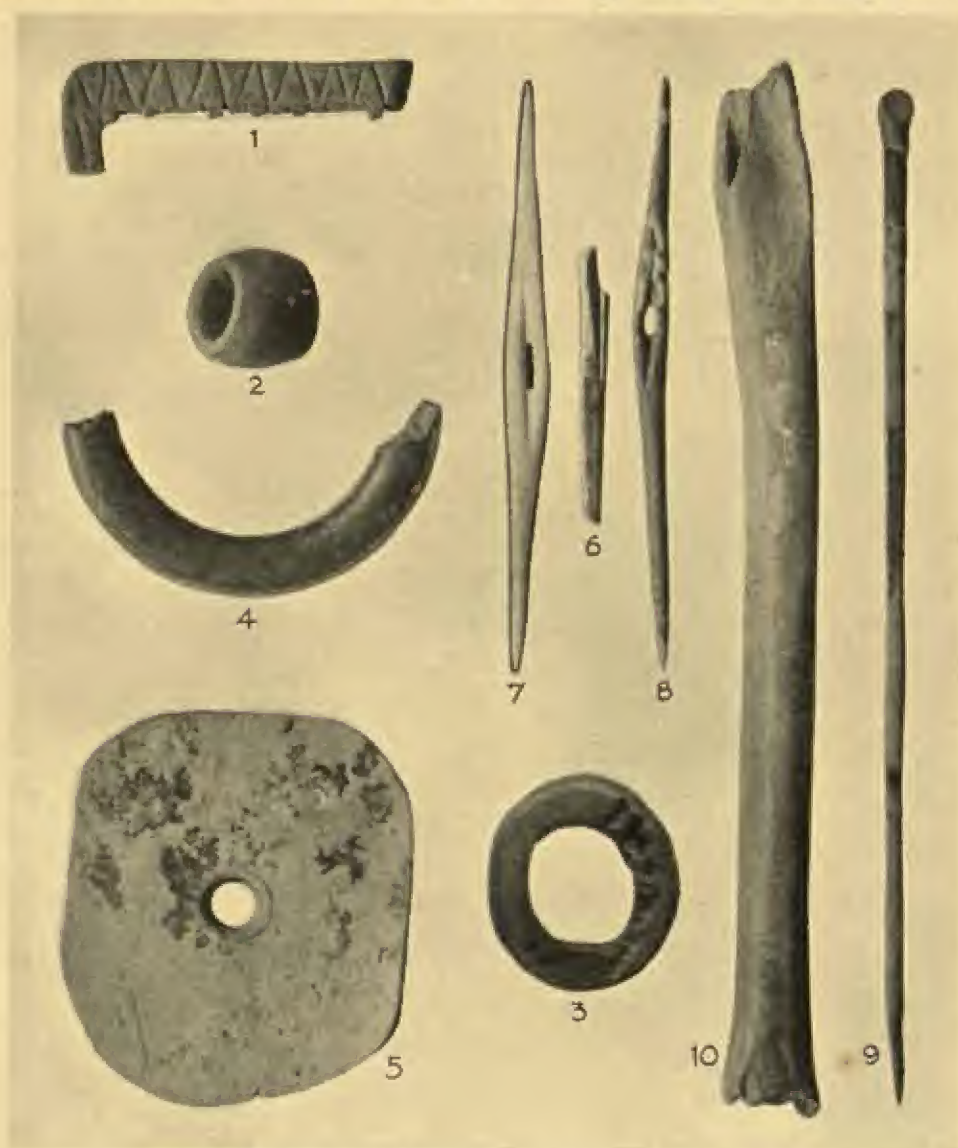


Fig. 9. Bone and other Objects from the Sculptor's Cave. (1.)

like it has been recorded, though there are some coarser parallels from the Beveridge collection.¹ It is rectangular, so that it cannot be a whorl

¹ From Tota Dunalg and Bealach Ban, both in North Uist.

(fig. 9, No. 5). I know of no other instance of this shape. Perhaps it is an ornament.

Classified List of Bone Instruments.

Scottish or Swiss.	Swiss.	Indeterminate.
Fig. 8.	Fig. 7.	Fig. 8.
18. (C 6)	5. (D 7)	7. (B 3/2nd)
20. (not stratified)		8. (B 4/2nd)
22. (B 10)	Fig. 8.	15. (C 9)
	1. (C 3/2nd)	16. (- A 1/2nd)
	2. (- B 0/2nd)	21. (C 0)
	6. (C 3/2nd)	9. (D 2/2nd)
	10. (- B 1/2nd)	19. (C 1)
	11. (B 4/2nd)	3. (D 2/2nd)
	12. (- B 0/2nd)	4. (B 3/2nd)
	14. (C 3/2nd)	5. (B 3/2nd)
	17. (C 7)	13. (- B 1/2nd)
	Fig. 9.	
	6. (C 9)	
	7. (D 3/2nd)	
	8. (D 3/2nd)	

Out of twenty-six instruments, twelve are certainly foreign and a good many more may be foreign.

(A 0/2nd).—The basal portion of a shed antler of a red-deer (*Cervus elaphus*), with brow tine missing. Miss Bate writes: "In my opinion it has undoubtedly been artificially worked—shown by some sharp incisions at the distal broken end as well as by the curious excavations (worn smooth by thongs, possibly) at the proximal end of the antler." The excavations are three in number, and show an unexpected regularity. The whole bone is much worn, the usual vertical corrugations being missing. Mr Reginald Smith compares bone chopping-blocks or anvils from L'Aquina,¹ and, in truth, this tine could be fixed rather comfortably into the ground. When the L'Aquina bones had been a little worked, there were cuts as from a sharp instrument. After further usage the surface became not unlike our excavations. They do not, however, occur in threes or on raised blocks or in horn. Worst of all, I am loth to admit a Mousterian product among our Covesea finds, even although it was found 2 feet below the Bronze Age level, just inside the door.

POTTERY: *Bronze Age*.—In quality the pottery resembles that of the

¹ Henri-Martin, *L'Evolution du Moustérien*, plate lix.

brochs, but it is not unparalleled in pottery of Neolithic and Bronze Age times in the Zürich Museum.

It is coarse; most of it contains large stones, like garnets in appearance, *e.g.* pots κ , λ , ι , η . Some of it contains large white particles that seem to be shell, θ , μ , ι . The outside surface rasps like a file when the hand is drawn over it, particularly pot ν . The only pot that shows an attempt at levigation is ξ . The inside of these vessels is generally smooth, notably so in the case of δ and ϵ ; all except η are more or less blackened, and scraps of food often appear.

Almost the only shape seems to be a pail-like cooking-pot, with a rim which projects slightly inside (fig. 10). The pot curves out slightly below the rim. All bases preserved are flat. For rims see fig. 11. δ , fig. 10, has been restored with slightly too wide a base. *Cf.* fig. 11, No. 5.

The pail is indigenous to Great Britain; it appears in steatite urns from Orkney¹ and in undecorated transition pottery from Chastleton,² Oxfordshire. The rim is essentially like those of the cremation urns. I am not aware that the two have been found in conjunction in this country. They are to be seen in the Zürich Museum from Neolithic times to Hallstatt, I.³

¹ Anderson, *Scotland in the Iron Age*, p. 73, fig. 57, from Fair Isle.

² To be published.

³ *Neolithic*, No. 6223, from (Berne) Neuville-Chavannes. It is unlevigated, but smoother than our pottery. The ware is grey and decorated with nail marks.

Bronze Age: Lac de Zürich. The same rim, shape, and size continue unchanged. At least half a dozen vases might be quoted, though most have some decoration. No. 852. No. 1419, from Wollishofen. See also *Mitteilungen der Antiquarischen Gesellschaft in Zürich*, xxix., part iv., plate vii., No. 29.

Mörigen, No. 6287, found with leaf-shaped swords.

Grandson-Courcelettes, No. 6624. This urn may be wheel made; it is grey-black and polished. It is found with winged axes, antennae sword, and open-work razors. It has lines incised round it, and a trace of such a line is shown on the pot on plate.

Hallstatt, I., Wangen Grave 4. It is of greyish-yellow unlevigated clay. It is hand made and undecorated. It was found with a bronze girdle.



Fig. 10. Bronze Age Cooking-Pot from the Sculptor's Cave.

δ. This pot was found mostly at the back of the cave (fig. 10), but two pieces, which may join, were found 6 feet down in (- B 0). At any rate their fabric is identical. The rim is flattened horizontally. Cf. the rim of ε No. 6 on fig. 11. The colour is brick-red shading to black. Restoration by Mr Young.

ε. Rim, fig. 11, No. 6.—This pot was also found at the back of the cave, and has a similar rim and colour.

ζ. (D 3/2nd).—This pot was found in woeful disintegration at the bottom of the Bronze Age layer. Some of it is indistinguishable from the last.



Fig. 11. Sections of Rims and Base of Bronze Age Pottery from the Sculptor's Cave. (4.)

η. This pot was found in the clay of (D 3/2nd) and (D 2/2nd). The rim is similar to fig. 11, No. 7, showing a distinct slope down towards the inside. It is of a bright red fabric that may be an attempt to reproduce a Hallstatt pigment.

θ. Rim, fig. 11, No. 7.—This pot was found with a mutton-bone inside it and a crushed skull outside it in (- B 1/2nd) under fallen rocks. The rim slopes more than the last. Though much of it survives, it has not been possible to complete it. It is reddish in colour, with white bits and garnets.

ι. Rim and base, fig. 11, Nos. 1 and 5.—Rim somewhat smaller than the last. Very rough. Yellowish grey.

κ and λ. Rim, fig. 11, No. 2.—Found in (B 3/2nd and C 3/2nd). The rim is similar to the last. The surface varies so much that two numbers have been given in case the fragments represent two indistinguishable pots: grey with garnets.

μ. Rim, fig. 11, No. 4.—This is the only incurving rim except for one rather amorphous fragment. It is also the thickest in fabric and contains big bits of skull. It is light pink in colour. Cf. one at Traprain,¹ which may not be out of place in the sixth layer.

ν. Rim similar to κ and λ. This is dark red, with the surface of a nutmeg grater (D 2/2nd).

ξ. Rim, fig. 11, No. 3.—The shape of this rim is more like an Iron Age rim than those we have been considering, and the fragment drawn was

¹ *Proceedings*, vol. lvi, pp. 224, 226, fig. 21.

found in the first layer in (B5), but other fragments of undoubtedly the same pot were found well stratified in (B4/2nd).

STONE.—(C3/2nd) Hammer-shaped piece of bored red sandstone with a channel on one side (fig. 12). It is hard to see what purpose this object could have served. Perhaps it was hung round the neck as an ornament. In west Ireland they had a way of boring granite¹ for an equally unknown purpose. Sandstone hammers are found in Scotland, but this stone, less than 2 cubic inches in size, would have been quite useless.



Fig. 12. Perforated Stone from the Sculptor's Cave. (1.)

(B9) Broken red flint-knife. A yellow flint-scraper was found in (C3) area, but the depth is uncertain.

ROMAN PERIOD.

Bronze Rings.—Fig. 13, No. 7 (B3), is a coiled ring in very bad condition. It is common for a long period. Nos. 8, 9, 10, 11, 13 are small rings. There are fragments of several others not illustrated. No. 12 (B3) is a piece of knotted wire which is doubtless common, and has a parallel in Saxon times in the Ashmolean Museum. No. 14 (C0) may be a piece of chain armour.² Fig. 14 (B7) is a plain penannular ring. It may belong to the Bronze Age.

Bracelets (D2).—A broken bracelet of rectangular section. The surface is corroded, but it appears to have had some pattern. One terminal is a hook, the other is broken. This fastening is common on Roman sites.³ (B3) Probably a fragment of a twisted bracelet. Cf. Traprain⁴ and Colchester B. M. (B5) Piece of a chain with spirals.

Pendants (fig. 13, Nos. 15 (D2), 16 (A4), and 17 (D4)).—It is suggested that these may be tags for legionaries' belts of an early type, where the straps are cut into small strips, each with a tag. Ritterling thinks that 150 B.C. is a *terminus ante quem* for these.⁵ They are in bad condition, and Mr Young informs me that No. 17 is stained with leather. Nos. 18 (A4) and 19 (C5) are little pendant saucepans or bullæ which date from sixth century Greece onwards.⁶ Mr Beck quotes an example from Harlech said to be Roman and some from Bologna.⁷

Fig. 15, No. 1 (C6).—A hook-like object. The upper end is filed down,

¹ Private collection.

² Curle, *Newstead*, p. 161, plate xxxviii., figs. 8, 10. The mesh of the Covesea example is coarser.

³ On Colchester. In the British Museum. ⁴ *Proceedings*, vol. lvii. p. 198, No. 11, 3rd level.

⁵ Ritterling, *Hofheim*, vol. xv., No. 73; vol. xi., Nos. 56, 57, 66. Bushe-Fox, *Richborough*, vol. ii. p. 48.

⁶ Cf. the silver strainer at Traprain, *Proceedings*, vol. lvi., fig. 20, No. 9.

⁷ Del Picino and Montegrigio.

the lower broken. It is of stouter make than most of the objects of this period. Nos. 4 (A5) and 3 (D4). Probably the bolt and key of a barrel-lock. The bent end of No. 3 is a hollow square which could run up

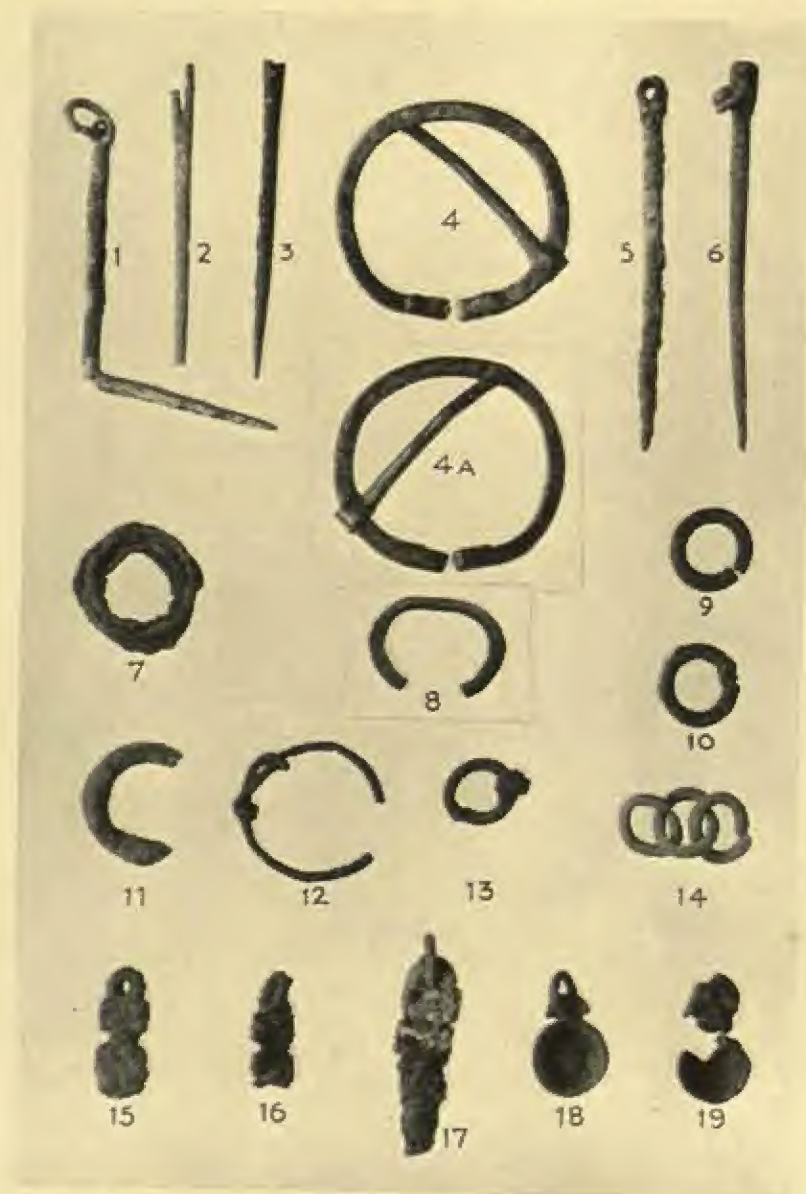


Fig. 13. Bronze Objects of the Roman Period from the Sculptor's Cave. (†.)

No. 4, so that the springs on both sides could be compressed and then withdrawn. A similar bolt without the spring was found at Traprain.¹ No. 2 (A0) seems to be a sword guard or scabbard top. A straight-faced bronze guard with a Celtic frill is found on an iron sword at Newstead,² and plain bronze bands are found on iron swords in the British Museum and at Oxford. A smaller mounting occurs in the second century at Traprain.³ Mr Curle thought it out of place and attributed it to the Bronze Age. Covesea supports his stratification as (A0) is at least 5 feet above the Bronze Age level. No. 5 (A1) is an unexplained object which was perhaps inscribed. "TRES" is a very uncertain reading.

Bronze Wire Beads (D3).—One complete bead and several fragments were found. Mr Beck writes: "These, although found in Roman and Saxon period, in this country were rare at that date."⁴ From its position



Fig. 14. Bronze Penannular Ring from the Sculptor's Cave. (1.)



Fig. 15. Bronze Objects of the Roman Period from the Sculptor's Cave. (1.)

it ought to belong to the Roman period. There are four in the National Museum—two from Traprain,⁵ one from Jarlshof,⁶ and one from Dun Beag.⁶

¹ *Proceedings*, vol. lvii, p. 222, fig. 28.

² Curle, *A Roman Frontier Post*, p. 185, plate xxxiv., No. 10.

³ *Proceedings*, vol. lvi, p. 212, 1, p. 213.

⁴ Ashmolean Museum, from Wheatley Grave 27, *Proceedings of the Birmingham Philological Society*, vol. iv., part I., p. 179.

⁵ *Proceedings*, vol. lvi, p. 212, 1, p. 213. National Museum.
VOL. LXV.

⁶ National Museum.

Fragments.—Small bronze hook (C8) and various fragments from different places, including broken pin stems.

Bronze Wry-necked Pins with Circular Heads.—These are among our most attractive finds. Such pins are not uncommon in Scotland and elsewhere, but their evolution and chronology is at present somewhat obscure. I cannot follow Mr Reginald Smith in his claim that the Keady pin, the Lingrow mould, and the Bowermadden pin are all the same. They seem to be three different pins.

The Keady pin, as illustrated, appears to have small corrugations all round (not two-thirds of the way), which I believe represent the thread wound round to keep the pin in position.¹ The Lingrow mould has some decoration at the base, possibly like our No. 7, and the corrugations are half way to becoming pellets, as in Traprain,² and Tents Muir, Fife.³ The Bowermadden pin is becoming a hand pin below, like our No. 5, and has corrugations intermediate between the Keady pin and the Fifeshire pin above. A chronology based on this misconception is not very promising, and when we apply it to Traprain we find the ring-headed pin, supposedly dated before them,⁴ present in all layers from the early second to the fifth century.⁵

It seems probable that there are more elements present in the evolution of this pin than Mr Smith would allow. It is a pity to leave out the sunflower pin, and I would suggest that the rolled pin with a crook in the neck, which the Swiss used to attach their sword girdles,⁶ cannot be neglected, especially as one of these girdles reached Braes of Gight.⁷

Leaving the earlier history for a future occasion, let us confine ourselves to the examples actually before us. Fig. 16, No. 1, seems the simplest and therefore, perhaps, the earliest type with one end of the cloth wound over the base. We must remember, however, that simple types had a way of persisting along with their more elaborate derivatives, *e.g.* the lap-over pin at Traprain, already quoted.⁸ No. 7 would come next, with three swathes of cloth at the base still looking like cloth. Nos. 8 and 9 are different stylisations of this motive. No. 2, with three definite pellets, develops from 8 into No. 3, the rose-pin.⁹ Nos. 4,

¹ *Proceedings*, vol. xx. p. 348, where see references.

² *Ibid.*, vol. lvii. p. 210, No. 3.

³ In the National Museum.

⁴ Smith, *op. cit.*, p. 347, "End of the first, beginning of the second century A.D." I think that in a subsequent paper on pins, "Opuscula ad Montelium," Mr Smith dated these earlier.

⁵ *Proceedings*, vol. lviii. p. 262, "Analysis."

⁶ Neuchâtel Museum, from Auvernier. See also illustration in Keller, ed. Lee, plate xlviii, No. 8, from Estavayer. The ribbing below is unusual.

⁷ *Loc. cit.*

⁸ Smith, *loc. cit.*, Early Ness pin.

⁹ *Proceedings*, vol. lviii. p. 259, Nos. 5 and 6.

6, and 10 are a stylisation of No. 9 into bars between pellets. No. 5 is the hand pin, which seems to go back to No. 7.

These two last pins may be said to be dated at Traprain to the fourth century or later.¹ The rose-pin only occurs there. Pellets and bosses

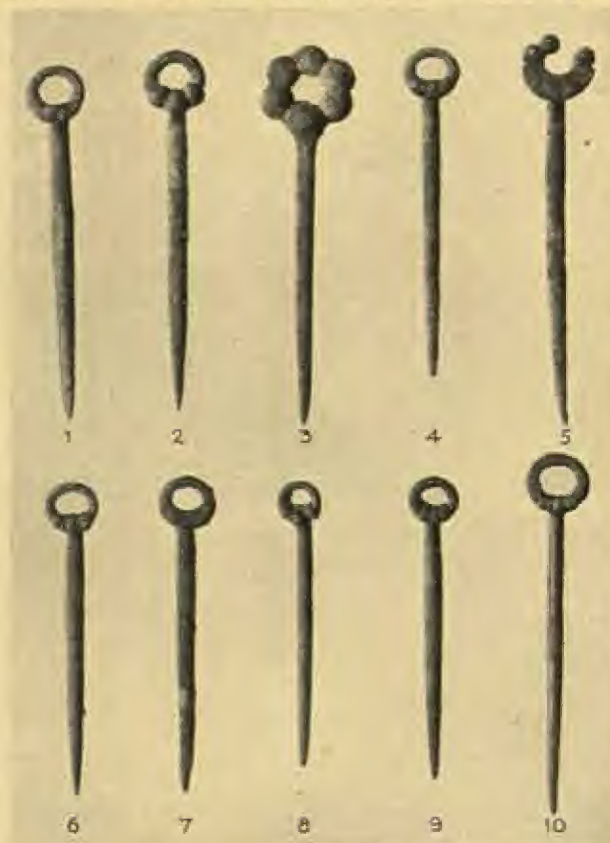


Fig. 16. Bronze Pins from the Sculptor's Cave. (f.)

seem to have had, and I believe still have, an attraction for the inhabitants of East Scotland. It is the underlying principle of the decoration of the stone balls.

The hand pin must have had four pellets when unbroken. The two at Traprain have five and three pellets respectively.¹

All these pins exemplify a love of severe symmetry of ornament which is now at any rate a national characteristic. Contrast the pin figured by Mr Smith from sandy beds, or, still more, one in the Ashmolean Museum from Woodperry.²

¹ See Analysis, *loc. cit.*

² *Archæological Journal*, vol. iii. p. 120, fig. 19, No. 10, and p. 122.

Nos. 4, 6, and 10 are paralleled by two pins from North Berwick in the British Museum and in the National Museum.

All the pins were found in the mixed layer in the following divisions:—No. 1 (C7), No. 2 (C8), No. 3 (D5), No. 4 not stratified, No. 5 (A5), No. 6 (C8), No. 7 (C6), No. 8 not stratified, No. 9 (C8), No. 10 (C4).

I should like to date Nos. 3 and 5 in the fourth century and the others provisionally in the second century.

Zoomorphic Pins, fig. 9, No. 9 (C7).—Large pin found inside a bird bone. The type is common at Traprain, where it is present in all layers. It was also found in earliest Newstead, c. 80 B.C. No development of type is apparent at Traprain.¹ Fig. 13, No. 6 (D4) is a similar but smaller



Fig. 17. Bronze Toilet Instruments from the Sculptor's Cave. (ca. 2.)

example, except that it has ducks' heads on two sides. The form of attachment is the same as that on our coin 43, Roma. Cf. also our twisted grattoir, fig. 17, No. 7.

Toilet Instruments, fig. 17, No. 1 (B3).—Pincers with one end broken. This has the same attachment as the fourth-century coin, fig. 23, No. 43. No. 3 (C5). With good surface and the spring still working. No. 5 (C5). In less good condition. No. 6 (C5). In very bad condition.

No. 2 (D1) seems to be a nail-cleaner. When it was shown on the screen a pattern of incised lozenges became visible.

No. 4 (B1) may also be a nail-cleaner. It is sharpened at both ends. A similar instrument was found in the early Saxon cemetery at Girton College.² For the pattern, cf. Traprain.³ No. 7 (B3). Grattoir of twisted wire. The head is zoomorphic, a bill being faintly visible below the double attachment rings.

¹ Analysis, *loc. cit.*

² Hollingsworth and O'Reilly, *The Anglo-Saxon Cemetery at Girton College*, p. 20 (B)4. Fox, *Archaeology of the Cambridge Region*, plate xxvii, 2, dated late sixth century, p. 248.

³ *Proceedings*, vol. lvii., fig. 23, No. 1, fourth century, by stratification. No. 2, fifth century, by stratification. *Ibid.*, vol. lv., fig. 21, No. 15; also late.

These toilet instruments are common in the Bronze Age and in Roman and Saxon times.

Needles, fig. 13, Nos. 1 (D4) and 5 (D3).—Bronze needles of a usual type which is not found in Scotland. No. 1 with ring for attachment. No. 5, from its position, should be of the Roman period. Nos. 2 (C5) and 3 (D5) fragments of another type.

Penannular Brooch, fig. 13, Nos. 4 and 4A (B6).—This is a simple



Fig. 18. Bone Pins from the Sculptor's Cave.

example of a pleasing type. Slightly zoomorphic terminals have been hammered back, and are not yet incorporated in the ring. It is rectangular in section, and lightly punched. It is impossible to hazard a date.¹

Bone Pins, fig. 18, Nos. 1 (A6) and 2, were found beside a hank of red hair. No. 1 is a pierced four-leaved clover, beautifully polished with punch marks between lightly incised diamonds on the stem. I know of no exact parallel, but the style is not uncommon in the brochs.² Knife marks are clearly visible about the head. No. 2 (A6). Barrel-shaped pin. This specimen is also finely polished and in excellent condition. The shape is fairly common in Roman sites in England. A knife seems to have been used on this head too. No. 3 (C6). Ring-headed pin. Well

¹ Cf. Gorton, *op. cit.*, plate iii., also a ring at Traprain, *Proceedings*, vol. liv, p. 78, fig. 3.

² Craig of Boyne, Banff, *Proceedings*, vol. viii, p. 290.

polished on one side, but of rougher make. Knife marks to be seen round the head.

No. 4 (B6).—Spoon. There is very little polish about this head. The side of the head suggests little slices with a knife, but there are no actual cuts, as in the last three examples. *Cf.* Borness Cave.¹ It has lost its point. No. 5 (C7). This specimen differs very little from fig. 8, No. 8. It is a little flatter at the point. Nos. 6 (A5), 7 (D4), and 8 (B8) are broken points of pins. It has been suggested that such casualties frequently occurred in shell mounds in the extraction of shell-fish. There were enough limpets in Covesea to support this theory.²

No. 9 (B7) is a type of needle very common in Scotland. An irregular hole has been bored in a slightly polished splinter. See the Beveridge Collection from North Uist in the National Museum.³

No. 10 (B7), *cf.* fig. 8, No. 7.

Fig. 9, No. 10 (C8).—Bone Sheath. The pin, fig. 9, No. 9, was found inside it. Such sheaths are well known,⁴ and pins have sometimes been found inside.⁵

Fig. 9, No. 1 (D4).—Fragment of a rectangular comb with chevrons engraved on it. There are knife cuts between the teeth. A straight-sided rectangular comb is unusual. A semicircular one, also broken, and with a geometric pattern, comes from Kettleburn.⁶ It is probably to be dated fairly late with the Traprain and Girtton toilet instruments. Fig. 9, No. 3 (C8). Flat bone ring. No knife marks are visible on this, so it may belong to the earlier period. It has clear polishing marks.⁷ Fig. 9, No. 2 (C5). Bone bead. This is well made, but not highly polished as most of those of this size from Skara Brae.⁸ Fig. 9, No. 4 (B7). Right upper incisor of a beaver. These are reported from Loch Nevis in the fifteenth century, but their remains are not common in Scotland.⁹

Beads and Glass, fig. 19, Nos. 1 to 7.—*Amber*, Nos. 1 and 2 (C7).—Mr Beck writes of No. 2: "The beautifully made annular bead appears to me to be pre-Roman, and probably to be of the same date as the two dark blue beads referred to later. The other amber beads are not sufficiently definite to date." No. 3 (D3). Irregular, with a tiny hole. No. 4 (B6). The hole is of intermediate size. There is also a hole on one side, as

¹ *Proceedings*, vol. x, pp. 490 ff.; vol. xi, pp. 365 ff.

² T. C. Lethbridge, "Shell Mounds and Winkle Pins," *Archæologia Cambrensis*, June 1928.

³ Also Wester Broch and Keiss Broch, Caithness. In National Museum.

⁴ Broch of Burray, Orkney. *Proceedings*, vol. xi, pp. 5 and 56.

⁵ Keller, *op. cit.*, plate xlii., 6 and 7, p. 290. Thigh of a stork used as needle-case.

⁶ Catalogue, p. 237. No illustration. *Cf.* Comb from Skail. *Proceedings*, vol. xxi, p. 284.

⁷ *Cf.* a rougher ring from Archerfield. *Proceedings*, vol. xlii, pp. 235 ff.

⁸ To be published. See also beads from Jarlsbof and Westerbrock in National Museum.

⁹ Identification by Miss D. M. A. Bate.

if some other ornament had rested against it. No. 5 (D3). Very small and irregular. No. 6 (D4). The condition of this bead is rather poor. The hole is small. No. 7 (D3). This bead has a large hole and is roughly rectangular.

Glass.—The report kindly sent me by Mr Beek is here given in inverted commas. I have added a few notes on the Scottish material. All the weights are given by him.

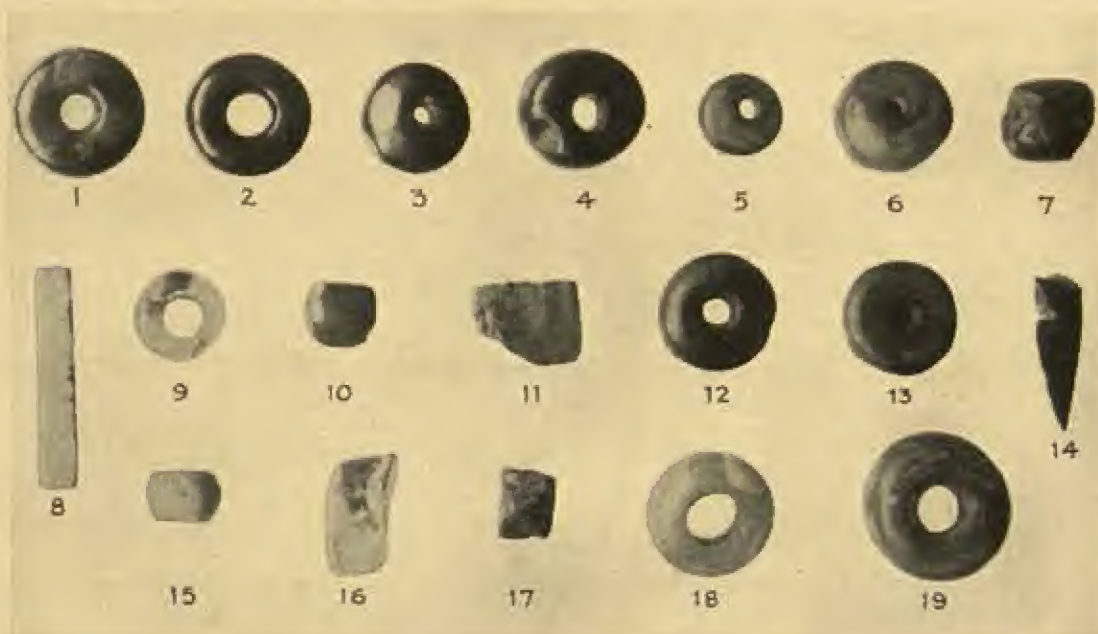


Fig. 19. Beads, etc., of Glass, Amber, and Jet from the Sculptor's Cave. (J.)

Fig. 19, No. 8 (C7).—*Long Square Cylinder*.—Weight, 1·216 gramme; sp. g., 2·37. "This bead is made of a pale blue glass, in which I believe the colouring material to be copper. Beads of this glass, but usually spherical or oblate, are found at Lakenheath, Salisbury Plain, etc. I cannot date this bead, but expect it to be either Roman or Saxon. The form is not common, but I have met it in pre-Roman, Roman, and Saxon times. So far as I can remember, I have never met it in this glass."

Most of the square beads I have seen in England are larger. There is a broken bead of this size (its length cannot be determined) in dark blue glass from Traprain.¹

¹ *Proceedings*, vol. lviii. p. 209, fig. 17, No. 5, from 2nd level.

Small oblate blue bead, No. 15 (A 5).—Weight, 567 gramme; sp. g. about 2.2. "This bead, which is of practically the same glass as the last, is similar to beads from Salisbury Plain and other places in this country. The specific gravity, however, is lower, which may be due to hidden bubbles. Unfortunately we cannot exactly date them, but it seems probable that they are Roman or Saxon, when found in this country. On the Continent, in Bohemia, they date to about 100 B.C." *Small annular green bead of clear glass*, No. 9 (C6). Weight, 833 gramme; sp. g., 2.54. "A good example of ordinary bottle glass found both in Roman and Saxon sites." Cf. Traprain.¹ *Pentagonal cylinder in opaque green glass*, No. 10 (D3). Weight, 820 gramme; sp. g., 2.28. "A common type of bead, not infrequent in Roman times, would not be much earlier but might continue to Saxon times." In appearance this is very like a bluish-green hexagonal bead found at Traprain.² *Annular bead of clear green glass*, No. 16 (C6). This is made from the hollow ring at the base of a vessel. The sides and end have been cut and smoothed. It is from a base,³ not a rim, as it expands horizontally in both directions; cf. a base from Traprain,⁴ which is called a rim in the text, but quite clearly expands almost at right angles on both sides. No. 17 (-A0). A chip of opaque red glass. "This is a glass coloured with copper, which is included in the form of minute particles of metallic copper." *Single wave bead*, No. 18 (D6). "White wave with four crests on a cobalt blue base." Weight, 2.375 grammes; sp. g., 2.419. "This bead I consider is probably an early bead. The slightly higher specific gravity (compared with No. 19 below) may be due to the white wave, some of the white glasses being very heavy. On the other hand, the bead is lighter in colour, and there seems to be a tendency for these cobalt beads to have a higher specific gravity when the colour is lighter. In any case it has a lower specific gravity than any Saxon cobalt bead that I have tested. But it is not on account of the specific gravity that I say it is early. The whole appearance suggests a pre-Roman date to me, although several such beads have been found with Roman remains in parts of England." Similar though not identical beads have been found at Newstead and Traprain. *Large dark blue oblate bead*, No. 19 (C7). Weight, 4.233 grammes; sp. g., 2.386. "This bead, which is made from cobalt glass, is, I believe, pre-Roman, probably La Tène. The whole appearance and the colour agree much more closely with the early beads than they do with the later or Saxon variety of the same glass. Also, although there is not sufficient divergence in specific

¹ *Proceedings*, vol. liv, pp. 66, 29, and 30. Second century A.D.

² *Ibid.*, vol. lvii, p. 212, fig. 29, in the centre from 2nd level.

³ I owe this identification to Mr Harden.

⁴ *Proceedings*, vol. liv, p. 91, "a segment of a hollow rim."

gravity to lay much stress upon it, it is interesting to note that all the cobalt blue La Tène beads from England and France that I have tested have specific gravity between 2.28 and 2.34, and several from the Eastern Mediterranean or Italy are 2.32, whilst the Saxon ones I have tested are 2.485. The Covesea specimen at 2.386 is decidedly nearer the early beads. I therefore think that it was made before the Roman times, though it may quite possibly have been used by Romans." *Jet annular bead*, fig. 19, No. 12 (D 4). This is broken, but is finely polished, with a bevel on the inside. There is a similar bead in the National Museum from the Culbin Sands. "This appears to me to be a Bronze Age bead. Both the workmanship and the condition of the material make me place it at that date." *Annular bead with some unknown substance inside*, No. 13 (D 4). "This bead is exceptionally rough in manufacture. The heavy scratches over the surface are very unusual. I have seen them on jet and stone beads attributed to the Bronze Age, but I do not see why such a bead as this might not be made by an unskilled workman at any period." In Scotland such beads are not uncommon. The present specimen has parallels in the National Museum from Culbin, Luce Bay, and Traprain. No. 14 (D 7). Fragment of a bracelet pierced for hanging and then again broken. It is beautifully worked. This habit of re-using bits of bracelets as pendants seems to have been particularly common in Morayshire, as there are several examples from the Culbin Sands.

Fig. 19, No. 11 (B 6). A chip of orpiment (As_2S_3). This identification was suggested by Mr Beck and confirmed by Mr Balsillie after experiment. It is a bright yellow glass-like substance, which is inclined to flake away. Mr Balsillie informs me that this is its natural condition and that it has not hitherto been reported from Scotland. It was used by the Romans both for pigment and for poison, but it would be rash to hazard a guess as to its significance on the present occasion. (B 4). A smaller chip of orpiment.

Suggested date of some beads:—*Bronze Age*.—Nos. 1, 2, 12, 18, 19. *Second Century A.D.*—No. 9. *Fourth Century A.D.*—Nos. 8, 10, 15.

Lead.—Three pierced lead discs have been found suitable for net-sinkers. "One has approximately 1.1 inch diameter and sp. g., 5.65. It is much corroded, which probably accounts for its low specific gravity. It is an unusual type and difficult to date." Probably it is of the Roman period.

Counters.—Numerous flat discs have been found suitable for counters, of many materials—sandstone, gneiss, shell, clay. Their use has not been determined, but they are common on many sites.¹

Stone Files.—(D 4), a broken rectangle, 4 inches by .8 inch by .5 inch. It

¹ Traprain, *passim*.

is well made and tapers at the ends. (D 4). Flat rectangle, 5·45 by 1·5 by ·35. (B 4). Broken at both ends: about 1 inch square.

Iron.—(A 6). A Viking rivet. This appears to be the latest find in the cave. Cf. Rivets from Carnan More, Otternish.

Samian Pottery (fig. 20).—All these pieces, except No. 2, are much worn. Nos. 1, 4, and 5 look as if this were deliberate. The rims 4 and 5



Fig. 20. Samian Ware from the Sculptor's Cave. (1.)

seem to have been ground down by polishing. Pieces worn like this are to be seen in the National Museum from Traprain, Mumrills, and Newstead. The quality is rough and coarse. No. 1, Dragendorf 37. This shows a rather late pattern. No. 2, Dragendorf 37. The only fragment in good condition. It is a rim with a small pattern of divided circles. No. 3. Ornamented, but indeterminate. No. 4, Dragendorf 37. The rim of an even thicker pot than No. 1. It seems to have the beginning of an inscription. No. 5, Dragendorf 33. This is another worn rim.

Native Pottery of the Roman Period.—a. Fig. 21, No. 2. Rim. This

is a polished wheel-made olla of second-century type. The clay is black and well levigated. Scattered over many divisions from (B 4) to (C 7). Flat bottomed.

β . No. 3. Black, hand-made, soft ware, with indications of polishing. The rim is everted and decorated with finger-marks. It produces false rims as described¹ in Skara Brae. Like the olla it is soft, crumbly, and well levigated. This pot seems to have been widely scattered. The height was probably about 8 inches.

γ . No. 1. This is yellowish in colour. The rim is everted and broken, the shoulders sloping. It is soft and inclined to split off in layers like α . Like α and β it is widely scattered. It was probably about 10 inches in height.



Fig. 21. Sections of Rims of Native Pottery from the Sculptor's Cave. (4.)

CONCLUSIONS.

Bronze Age.—Several archaeologists have been quite shocked at the suggestion of a landing in Moray Firth. "Do not you know," said they, "that Mr Fox has said that there was absorption and not imposition in the north and east?"²

Others are indignant on behalf of Ireland. "The Scottish Celts are always supposed to have come from Ireland." Have these supposers counted up the swords on the East Coast and considered the moulds at Traprain, including even a sword mould? However this may be, I have not the least doubt that there was one landing of foreigners, probably many, in the Moray Firth. More excavation is required before we can estimate their extent and importance.

Certain modifications may have taken place in the culture of these people on their way from Switzerland, but there is no evidence that these modifications took place in the British Isles.

The pottery is probably made of local clay; it has grown a little coarser, and may have lost a few nail-marks. In shape it is still completely Swiss.

The bracelets have still the distinguishing habit of being beaten³ from the inside out. Several examples shown me in the Zürich Museum were almost identical. From Balmashanner to Wester Ord they show little

¹ Childe, *Proceedings*, vol. lxiii, p. 269.

² *Ant. Journ.*, vol. vii, p. 126. I have no idea what kind of burial-urn these people used. At present we are only concerned with their cooking-pots. Those in Covesea, at least, are in the pre-absorption state. As I read Mr Fox's theory it pre-supposes the existence of such a state.

³ Cf. Grandson Courcellettes No. 24966 (cast), Zürich.

variety of type. Note the other exotic article in our Eastern county hoards which has arrived without modification, the sword girdle from Braes of Gight.¹

The Ring-money is the only purely western product in this settlement.

A curious feature is that Switzerland seems to have abandoned bone instruments at least by the Middle Bronze Age, and M. Vouga is inclined to think that the type represented by our Nos. 11 and 12 was confined at Bèvaix at least to the earliest Neolithic. Either our people must have left Switzerland early and acquired the bracelets later, or they may have been a backward tribe who retained bone instruments until the Bronze Age.

There are great difficulties in the way of the inquirer after bone instruments. They do not appear in graves or hoards, and, even when they are present in settlements, archaeologists may dislike them and throw them away. The bone instruments show a wide range of types, and they seem to have arrived unmodified.

Perhaps I may be allowed to mention the moulds for two socketed axes in the Elgin Museum, to suggest that if these Late Bronze Age people were traders they had come to stay.

I should also like to mention twelve flat axes² in the same Museum from seven different sites, to suggest that the cave-dwellers were not the first invaders of the Firth, and Professor Childe has cited the Gallic Fort at Burghead to prove that they were not the last.

It is worth noticing that bone instruments of an apparently foreign type flourish at Heathery Burn, a canonical part of the invasion.³

THE ROMAN PERIOD.

Owing partly to the friable nature of the soil and still more probably to the efforts of former explorers, it has not been possible to find any stratification in this period. We have, however, two dates established by the pottery, dated in the first half of the second century and by the coins from 337 to 354.

With the aid of Traprain it has been possible to group certain articles with one or the other.

Second Century.

Five pieces of Samian and an olla.

Tags for belts.

Fig. 20, and fig. 21, No. 2.

Fig. 13, Nos. 15, 16, and 17.

¹ *Proceedings*, vol. xxv, p. 135.

² Mr Callander has already noted that all the Scottish moulds for these objects come from our North-eastern Counties. *Proceedings*, vol. xxviii, pp. 487 ff.

³ Crawford, *Ant. Journal*, vol. II, p. 33.

Eight wry-necked pins.	Fig. 16, Nos. 1, 2, 4, and 6 to 10.
Bronze sword guard.	Fig. 15, No. 2.
Two glass beads.	Fig. 19, Nos. 9 and 16.
The hearth at the bottom of the layer.	Fig. 4.

Fourth Century.

The coins.	Figs. 22 and 23.
Two bronze pins.	Fig. 16, Nos. 3 and 5.
Bronze nail-cleaners with geometric patterns.	Fig. 17, Nos. 2 and 4.
Bronze pin and grattoir.	Fig. 13, No. 6, and fig. 17, No. 7.
Bone pins: one with geometric pattern.	Fig. 18, Nos. 1 and 2.
Broken comb.	Fig. 9, No. 1.
Blue beads.	Fig. 19, Nos. 8, 10, and 15.

I do feel rather strongly that none of these articles are really suitable for cave-dwellers. Perhaps I am prejudiced by the extreme difficulty we had in detecting the bronzes. We kept losing excavation knives and entrenching tools. How could those people have kept nail-cleaners and tweezers, and who would have the heart to clean nails in the Sculptor's Cave?

Scottish sites are not rich in little bronzes, perhaps because the dwellings were so dark. Half a dozen is a large number for a brooch, and Borness¹ heads the list of caves with five articles. On the other hand, as far as one can judge from the records, there was no lack of pottery. At Traprain, at any rate, there was masses. Our people had only three, or at most six, cooking-pots in their two periods.

Contrast this record with that of Wookey Hole,² where there were quantities of Celtic pottery and seven pieces of bronze as a result of the first campaign. There, at least, is a clear case of occupation over a long period.

The pottery records of the Victoria Cave, Settle,³ are less satisfactory, but the bronzes there too are much too fine for cave men. It is now accepted that they cannot have been deposited by Celts fleeing from Saxons, but there may have been other refugees in Yorkshire in the second century with Brigantine wars and Pictish raids and may be some of our Covesea men reiving southwards. Perhaps they found tags and what not when Newstead and Birrens were hastily evacuated. It is also possible that the expedition of Severus in 210 caused the ladies of the Laigh to seek sanctuary, and that they died at Covesea

¹ Corrie: Hunt, Clark, *Proceedings*, vol. x. p. 490; vol. xi. p. 305.

² Wookey Hole, *Archæologia*, vol. lxii. p. 565.

³ Victoria Cave: Boyd Dawkins, *Cave Hunting*, p. 81.

with their trinkets upon them.¹ It emerged from Professor Bryce's report that there was a scarcity of adult males in the bones he examined.

With regard to the later period, the coins require no less explanation. Trade will hardly meet the case. The coins were ornaments rather than currency, and why here and nowhere else in Scotland? It is tempting to connect them with Picts south and over the Border in 367. Claudius tells of famous massacres in the far North two years later.²

If all this seems too fanciful, let it be remembered that there are a prodigious number of human bones to be explained and that nine of them show beheadings.³

This question is bound up with the date of the drawings on the walls. I hoped to republish those already published⁴ and add some others, but I have had to postpone this till later.

It is worth noticing that Samian pottery is the last dated find on the floor of the Cave of Constantine,⁵ whose signs are connected with the Wemyss⁶ signs and so with ours. Lastly, that Mr Diack dates the Auquhollie⁷ Stone 350 to 500, and one of our unpublished signs seems identical with his (two circles joined). Professor Childe pointed out that it was awkward to make unconnected strangers put up memorials or apotropaic signs years afterwards.

I am overwhelmed by the list of my obligations. Besides those already acknowledged, I owe much to the kindness of Museum Directors and staffs at Elgin, Aberdeen, Edinburgh, London, Cambridge, Oxford, Neuchatel, Zürich, besides counsel and inspiration from archaeologists and scientists too numerous to mention.

HUMAN BONES.

Professor Bryce kindly examined some of the human bones in 1928. He made the same observation which was subsequently made independently by Professor Low that there was a preponderance of children's bones.

There were human bones in both layers, but many more in the mixed layer than in the bronze layer.

¹ Professor Myres' pleasing suggestion.

² Claudian, *Panegyricus de Quarto Consulatu Honorii Augusti*, lines 31-33.

³ See p. 17. A local myth of cremation in the cave has arisen. It is without foundation.

⁴ Romilly Allen, *Early Christian Monuments*, vol. III. p. 190; J. Stuart, *Sculptured Stones of Scotland*.

⁵ Wace and Jehu, *Proceedings*, vol. xlix, pp. 237 ff.

⁶ Wemyss, *ibid.*, vol. xl, p. 107.

⁷ Diack, *ibid.*, vol. lix, p. 257.

UNIVERSITY OF ABERDEEN,
ANATOMY DEPARTMENT,
MARISCHAL COLLEGE,
ABERDEEN.

Comments on the Human Bones from the Sculptor's Cave, Covesea.

In this collection the human bones are so fragmentary and mixed that it is not possible to observe any characteristics of racial significance or differences between the bones of the respective layers. The large proportion of bones of young individuals is noteworthy.

18th December 1930.

ALEX. LOW.

EXTRACT FROM PROFESSOR LOW'S DETAILED REPORT ON
THE HUMAN BONES.

(C7).—Small wisp of human hair—reddish—made up of strands eight inches long. Two plaits of human hair—reddish.

(B4).—Axis showing upper border of spine and laminae cut off by a sharp instrument.

(C4).—Atlas showing upper articular processes and anterior border cut off by a sharp instrument.

(C7).—Atlas showing lower left articular surface cut off by a sharp instrument.

(D4).—Axis showing upper border of spine and laminae cut off by a sharp instrument.

(D7).—Axis with upper border of spine and upper border of right lamina cut off right forward into odontoid process.

Axis where a complete cut has gone through the laminae, pedicles, and body of the vertebra.

These six vertebrae indicate that the individuals must have been beheaded.¹

REPORT ON THE ANIMAL BONES FROM THE SCULPTOR'S CAVE,
COVESEA. By R. M. NEILL, M.C., M.A., Lecturer in Zoology,
University of Aberdeen.

With the kind help of Miss Isobel Dean, B.Sc., I have examined this collection of animal remains.

There are 536 items in the collection, which is largely the customary debris of a midden or dump.²

¹ Dr Dodgson discovered three more vertebrae similarly cut.

² This does not include a number of bones examined by Professor Ritchie.

The bones are mostly much broken, and include remains of ox (Celtic ox), red-deer, roe, sheep, pig, dog, and fox, among mammals;¹ the bones of several gull-like birds and several bones from the head of a fish of the cod family, together with a single valve of oyster-shell.

Three bones were found definitely cut by a sharp and heavy implement such as an axe. In one group were five split pieces of long bones (red-deer), with remains of the marrow adhering.

The bones are not of great age and on the whole are in good preservation; a few fragments are calcined and a number of others discoloured and blackened by fire. None were mineralised.

REPORT ON TWO SPECIMENS OF BRONZE FROM SCOTLAND.

By MR O. DAVIES.

The analyses were carried out by me at the Imperial College of Science, owing to the kindness of Professor Baker in putting Laboratory facilities at my disposal there.

Both specimens were badly rusted, and therefore I have put both the figures as found and the results when scaled to 100 per cent., in order that the character of the bronze may appear. The results, therefore, will not entirely represent the original composition, as copper and some other things are slightly soluble.

(C3 2nd) Section of Bracelet.

Original Figures, per cent.	Scaled.
Cu 41.48	74.79
Sn 4.42	7.97
Pb 8.74	15.76
Zn tr.	tr.
Sb .13	.23
As .30	.54
Fe .39	.70
Ni tr.	tr.

No Ag, Co, Bi.

This bronze is of a type that is very common in West Europe before Roman times, and goes back into Bronze Age III. or IV. There should be especially noticed the high lead percentage.

¹ To this list should be added the horse and the beaver identified by Miss Bate. Mr Neill also called my attention to the worked deer tine.—S.B.

(C5) Needle.

Original Figures, per cent.		Scaled.
Cu	79.57	90.35
Sn	6.78	8.68
Sb	.29	.37
Pb	.14	.18
Fe	.32	.41
Co	.01	.01
No Ag, As, Bi, Zn, Ni.		

An ordinary tin bronze. There should be noticed the fairly low percentage of tin, well below 10 per cent., which would be normal for pins and such objects that did not require to be very hard but which it would be surprising to find after the Early Bronze Age in use for swords, etc.

O. DAVIES.

Mr Davies notes that the percentage of lead at Covesea is less than that of the socketed axes at Heathery Burn Cave, 24.3 per cent., and he does not think that the two have the same source.

COINS.

There are nine Roman coins dated nearly to the middle of the fourth century. The limits are 337 to 354. Of these coins eight show no signs of wear and tear and three are pierced.

Roman Occupation.—These two facts go to show that the coins were not the ordinary small change of the district. Therefore they were probably at some distance from an occupied Roman settlement. This conclusion is supported by the presence of five scraps of Samian pottery from four different bowls which have also been put to a new use.¹ The olla alone would suggest a native pottery on Roman lines within the travelling radius of such pots, but, as it is unique, it cannot be taken to prove a Roman occupation of Morayshire, even in the second century.

Of the barbarian coins, it seems possible to discuss seventy-nine out of some two hundred and twenty. Their condition when found was deplorable, and it is rather a triumph for Mr Edwards that so many are legible.

Those which can be determined were confined to the following five types:—*Gloria Exercitus*, 3; *Felicitas Temporum*, 54; *Victoria Augusti*, 3; *Roma*, 2.

As at Lydney and Richborough, the *Felicitas Temporum* type is predominant.

¹ See p. 202.



Fig. 22. Coins from the Sculptor's Cave. (1.)



Fig. 23. Coins from the Sculptor's Cave. (f.)

Mrs Wheeler, besides allowing me to see her collection before publication, has most kindly allowed me to study her manuscript. Our coins are larger, less fragmentary, less degenerate, and made on a different principle. Our smallest coin, No. 59, is bigger than the Lydney Minimissimi, and only about three of them were found at Covesea. I am only certain of clipping in one instance, No. 55.

At Lydney there was no complete coin found, and a good many of our coins have nothing missing. We have some variety of types.

Our coins are degenerate, but their idiosyncrasies have a certain attraction. Very few are mere nonsense, like so many of the Lydney coins. No. 48 is an exception (Nos. 44-79 at Elgin, not yet published).

Mr Casey explained to me that a large number of the Lydney coins are made by chopping up a rod of bronze. This causes impurities to concentrate in the middle, where the coin begins to degenerate. Our coins all split up the sides, showing that they were stamped out of a plate of metal.

Consequently there seems to be a good deal of difference in date between the two finds. Mrs Wheeler places her coins early in the fifth century. Mr Pierce thinks that our coins do not differ much in date from their prototypes, the last of which is dated 354. He also considers that they have a homogeneity of their own—that they form a group. The knowledge I have gained from describing them inclines me to think that he is right—that I should be able to distinguish one of the Covesea group from a Richborough coin of the period if I found it in a barrow. If this is true, we may hope that we may one day discover from what English county our Caledonians filched them.

My thanks are especially due to Mr Pierce for his help with the barbarous coins. The Roman coins were identified by Sir George Macdonald.

Roman Coins:—

Figs. 22 and 23.

1. (B0) IM CAE MAGNENTIVS AVG. Magnentius.
FELICITAS [REIPVBLICE]. Magnentius standing. In ex., TRP.
Coh., viii. p. 9, No. 5.
This coin has had some wear, but not much.
2. (C8) DN CONSTAN[TIVS IVN NOB C]. Constantius Gallus.
FEL TEMP REPA[RATIO]. In ex., CSL[C].
Coh., viii. p. 32, No. 25.
In excellent condition. It seems almost new. Someone has started to bore a hole, but abandoned the effort.
3. (C7) [CONSTA]N[TIVS] P F AVG Constantius II.
VICTORIAE [DD]AVGG CC Q NN. In ex., SARI.
Cf. Coh., vii. p. 484, No. 203.
Pierced. This coin has had some usage, but it is still quite sharp.

4. (4 B) ROMA Period of Constantine I.
Wolf and twins.
Coh., vii. p. 330, No. 17.
Very much rubbed, but the type is quite clear. Pierced.
5. (A 5) [FL IVL CONSTANTI]VS NOB CAES. Constantius II.
GL[ORIA EXERCITVS]. Coh., vii. p. 455, No. 92.
This is broken round the edges, but it seems to have been quite new when lost.
8. (C 3) [CONST]ANS P[F AVG] Constans I.
VIC[T]O[RIAE DD] AVGG Q NN. In ex., TRP.
Coh., vii. p. 431, No. 176.
This is splitting up the middle, but the lettering is quite new. Not illustrated.
9. (C 3) CONSTANTINVS IVN NOB C Constantine II.
GLORIA EXE[RCITVS]. Coh., vii. p. 377, No. 114.
Good condition.
10. (A 6) DN MAGNENTIVS P F AVG. Magnentius.
VICTORIAE DD NN AVG ET CAES. In wreath, VOT V MVL X. In ex., AMB.
Coh., viii. p. 19, No. 68.
This is another new coin.
43. (B 4) Helmeted head of Roma and possibly ROM visible. Like the other Roma coin, this is much worn. It is pierced and hung on two wire rings, the ends of which overlap.

Barbarous Coins—

6. (C 5) Gloria exercitus type.
Diademed head imitates the Constantius type; cf. No. 2 or 5.
There is a poor attempt to produce a legend. The relief is low, the design clear though weakly executed. Splitting.
7. (B 4) Same type.
Diademed head. A much robuster version than the last.
The reverse is nearer to No. 9. Worn, broken, and split; no lettering visible.
11. (C 5) Same type; reverse nearer to No. 5.
It has achieved CO in the right place, but the end of the inscription, though visible, is illegible. The head seems Constantinian.
The reverse, though lumpy, is vigorous.
12. (A 5) Fel. Temp.
The diademed head is very close to its prototype.
Reverse.—Signs of letters which may be correct. Design vigorous. Condition good. The coin was all there and only slightly rubbed.
13. (D 5) Head of Constantine I. veiled. . . . N I
Constantine in a chariot. Doubtful letters.
(Cf. Cohen, vii. p. 318, No. 760. Mattingly, Roman Coins, Pl. lxiii. No. 6, p. 299.)
14. Fel. Temp.
A neat little head like No. 11 V S P E
Reverse.—An excellent charger E L TEM
There is a jagged hole in the middle.
15. (A 6) Fel. Temp.
Head seems bearded. STA. TIVS. Even the apices are clear. In ex., CPLG

16. (B3) Fel. Temp.
Thin Constantinian head.
The reverse is faint but spirited.
17. (B4) Fel. Temp.
The reverse and obverse do not go well together. The obverse lacks neck and chin and is fat.
The reverse is nearly complete and the figures are neat, if not thin.
18. (B4) Fel. Temp.
This would seem to be the complete version of No. 17 as far as concerns the obverse. The diademed Constantinian head has become marvellously hairy.
19. (B4) Fel. Temp.
Face going off right.
Reverse.—The legionary has become a few weak straggles on the left. The horse has lost his head, but his rump is magnificent.
20. (B4) Fel. Temp.
Obverse broken.
Reverse.—Lumpy. Spear and falling horse visible Ex. U V
21. (B4) Fel. Temp.
Diademed head. This face seems to be an intermediate type between the last three and No. 22, which is recognisably Constantinian.
Reverse.—Lumpy, horse going off left. Letters?
22. (C3) Fel. Temp.
Constantinian gravitas has become a regular photograph stare.
Reverse.—The legionary is reduced to legs.
23. (B4) Fel. Temp.
This head is similar to the last, but there is less of it. All that remains of the reverse is the horse. It seems as if he was consciously being used as a separate design. The coiner meant to make a horse's head framed in dots; at the last minute he squeezed in the rest of the animal.
24. (B4) Vic. Aug.
Hardly shows any signs of degeneration. Diademed head. AVG in good lettering.
Reverse.—The right-hand Victory has been left out by careless striking.
25. (A4) Fel. Temp.
R E P
The obverse is good.
Reverse.—The legionary is vanishing heavenwards. Pierced.
26. (A6) Fel. Temp.
This head is barbarous, but belongs to the family.
Reverse.—Much blurred. T I V S A V G
27. (B4) Fel. Temp.
This is a very bad head. An extra nose has slipped under the chin. I V
Reverse.—The rump of the horse and some straggling legs. I believe that a tang has been deliberately hammered out of this coin, so that it might be attached as an ornament. Cf. *Du Chailly*, vol. ii. p. 313. The Viking Age. Similar bronze wire beads to those there shown have been found in the cave. See p. 193.

28. (3 A) Fel. Temp.
Diademed head, same type as 23.
Reverse.—Lumpy treatment; most of legionary lost.
29. (B 5) Fel. Temp.
This seems to aim at 24, but only the back of the toga remains.
Reverse.—The Briton is falling off the best horse of the collection.
He is a Celtic (?) triumph **F E L E** in the field.
30. (B 3) Fel. Temp.
Diademed and civilised head.
Reverse.—The legs of the legionary are again given the place of honour. The skirt of his tunic, his spear, and the rump of the horse are also visible.
31. (Not stratified) Fel. Temp.
Diademed head with the hair stylised.
Reverse.—The treatment is weak and skeletal, but most of the design is still here. The lines under the horse's tail are hard to explain.
32. (A 3) Fel. Temp.
Constantinian head.
The reverse design seems good, but the coin is much decayed.
R E P
33. (A 6) Barbarous head, but of the same general type. *Cf.* No. 38. Only the face is on the coin.
Reverse.—Lost.
34. (Not stratified) Roma.
The wolf and twins are just visible. Pierced and in very bad condition.
35. (A 4) Fel. Temp.
Constantinian head, all present. **R. S. T.** Skeletal, Minoan-like reverse. The coin seems to have been hammered out at one end as if to facilitate attachment.
36. (B 3) Fel. Temp.
Obverse much better than reverse. Hatchet face. Thick heavy jaw. He has the air of a philosopher.
Reverse.—The shield on the right has grown enormous. The legionary's legs are weedy. The rump of the horse and the legs of his rider are visible.
37. (C 3) Fel. Temp.
The details of this head, especially of the chin, are very poor, straggling. **I V**
In the reverse the design entirely fails to distinguish between the horse and the falling horseman.
38. (C 5) Fel. Temp.
Rather hairy Constantinian head.
The reverse is much more sensible in the photograph than in real life. Split.
39. (4 B) Fel. Temp.
Low relief; head to the left, nearly worn away.
Reverse.—Severe disintegration has set in, but those slanting lines probably represent the tunic of the legionary, and there may be the legs of the horse to the left.
40. (B 5) Fel. Temp.
Fairly neat diademed head to left, but the nose appears to be snub. **C O N C A N**

Reverse.—The design appears to have been complete, but the coin is worn. Pierced.

41. (B3) Fel. Temp.

Diademed head with a long neck. *Cf.* Richborough II. Plate of coins. **A V G**

Good and complete reverse.

42. (B3) Fel. Temp.

Good diademed head.

Reverse.—Gigantic legionary on the left; unfinished; hole in the middle of the horse.

NOTE.

The coins we have been dealing with have been fairly complete, and what remains is extremely decadent. The later examples (not yet published) are going the way of the Lydney coins. In that collection of over a thousand coins, all the flanges are too big for the coins, and no single design is complete. In our collection in the first of the fat series (Nos. 17-20), the gentleman has lost his chin. Degeneration, like old age, seems bound to incline to the fat or the lean. Let us recall the pillow-like horses of Late Mycenæan seals. These published horses specialise in enormous rumps. There is another breed of horse in the collection which fades away into a curve, *e.g.* No. 57, and ends as a straight line, as in No. 48.

II.

THE BANNATYNE OR BUTE MAZER AND ITS CARVED BONE COVER.

By J. H. STEVENSON, M.B.E., K.C., F.S.A.Scot., MARCHMONT HERALD. WITH APPENDIX: (1) NOTE ON THE PROVENANCE OF THE MAZER, BY MR LIONEL A. CRICHTON; (2) NOTE ON THE SAME, BY MR WILLIAM BROOK, F.S.A.Scot.; (3) ZOOLOGICAL NOTE ON THE WHALE BONE COVER, BY PROFESSOR JAMES RITCHIE, D.Sc., F.S.A.Scot.; (4) BOTANICAL NOTE ON THE PLANTS IN THE CARVING OF THE COVER, BY PROFESSOR W. WRIGHT SMITH, M.A., KING'S BOTANIST FOR SCOTLAND; (5) GEORGE ROBERTSON'S (ERRONEOUS) ACCOUNT OF THE SHIELDS ON THE BOWL.

The favourite and honoured drinking-cup of the Middle Ages, which is known as the Mazer, has come in our time to be an object of much appreciation and learned attention. Most, if not all of the important specimens which remain in England, and some of the survivors in Scotland, have been catalogued and described in one or other of several works;¹ but the ancient "Bannatyne Mazer,"² which may be called also, for more than one reason, the Bute Mazer has not been among them, though, in some respects, it is by far the most remarkable³ (fig. 1).

Although, obviously, this Mazer has been long out of use, it is in passing good condition,⁴ which is a matter of the first importance, as almost every feature of it calls for particular notice. I am therefore specially glad to say that in departments in which I have myself no authority to speak, I am able to give the Society the benefit of the skill of others. Thus the technical terms used in the description of the mountings of the Mazer, which are so important, have been revised

¹ *Domestic Architecture in England from Edward I. to Richard II.* (Joseph Henry Parker), 1853, p. 61; *Old English Plate* (W. J. Cripps), 1878, eleventh ed., 1920, p. 294; "On the English Medieval Drinking Bowls called Mazers," 1886 (Sir W. H. St John Hope), in *Archæologia*, vol. 1, part i, p. 129 *et seq.*; *Old Scottish Communion Plate*, 1892 (Rev. Dr Thomas Burns), p. 190; *British Museum Guide to Medieval Antiquities* (O. M. Dalton and A. B. Tonnochy), 1924, pp. 64, 173, 304; *Old English Silver* (W. W. Watts); *History of English Plate*, 1911 (Sir Charles J. Jackson), 2 vols. 4to.

² By the kindness of the Marquis of Bute, K.T., F.S.A.Scot., the Mazer and its cover were exhibited to the meeting; and with them was placed the replica of the Mazer recently presented by his lordship to the Scottish National Museum of Antiquities.

³ The only reference to this Mazer which I have found in any work occurs in George Robertson's *Genealogical Account of the Principal Families in Ayrshire* (1823), i. 60, 61. The notice there, though it is inaccurate and misleading, and cannot well be called a description, will be found below: Appendix, p. 255.

⁴ So far as can now be seen, it has only once been the victim of an accident, and that a comparatively unimportant one, involving a corner of the foot, and the corresponding corner of the boss. The first-named fracture has been repaired with soft solder or lead and that a very long time ago.

by Mr William Brook, F.S.A.Scot., who has not only examined the Mazer but kindly enables me to print his opinion on the provenance of its boss. Appendix, p. 252. Mr Lionel A. Crichton of Bond Street, London, has also been good enough to allow me to communicate his opinion on the same subject. Appendix, p. 251. The special questions, zoological and botanical, raised by the carved cover of the Mazer, which, unlike the wooden bowl, is made of bone, have been respectively considered by Professor James Ritchie and Professor W. Wright



Fig. 1. Bannatyne Mazer, outside.

Smith. The Society will be glad to find their Memoranda printed in full in the Appendix, pp. 253 and 254.

Mazers, in so far that they were vessels of wood, whether deep or shallow, and ornamented with silver or gold or not, were all alike; but, in regard of size, there were two types, the one being of comparatively small capacity, intended to satisfy the requirements of a single person, the other, of much larger dimensions, being meant to serve the whole table. The Mazer which is in question is one of the larger sort, made for a common cup to be passed round the company from hand to hand. It is, also, large of its kind, being 10 inches across the mouth.

One of the first features of the vessel to attract notice is the com-

parative depth of the bowl when its wood is considered alone, as it may of itself suggest the early period to which the bowl belongs.

On the outer side of the comparatively broad silver band which encircles the edge are engraved the names of two successive owners of the vessel—Robert and Ninian Bannatyne of Kames. These



Fig. 2. Bannatyne Mazer, inside.

names there are sufficient to account for the title—the “Bannatyne” Mazer, as well as to settle, within limits, the date of the band.

The lettering of the inscription, of which the names are a part, belongs to the period of the Renaissance, and several of the characters in it ought perhaps to be remarked upon.

The set of six silver straps which embraces the bowl is unique now. Straps at all seem to have been comparatively rarely found on mazers, perhaps on account of the strength of the material of which the bowl was made; and when found on a mazer like this, they raise the question at once, whether the antiquary is right who says that straps are an affair of taste rather than utility.

The “foot” of the Mazer, a silver circlet of 6 inches in diameter,

and $\frac{1}{2}$ of an inch depth, is connected to the band at the edge by the straps on the outside, and is soldered to the boss on the inside.

The boss, as we see, is in this case the real bottom of the vessel, and challenges the opinion of at least one scholar, that the presence of a print or boss in a mazer was a mere convention (fig. 2).

But apart from its constructional office, the boss in this Mazer constitutes a unique and most remarkable ornament. It is of silvergilt, circular, and large for a boss in a mazer, for it is 6 inches in diameter. All except its outermost edging is cast. It rises in the centre into the figure, in full relief, of a lion *couchant*. The technique of the casting, and of the subsequent engraving and chasing of the surface, and the problem of the nationality of the hands that executed the work, are matters that seem to demand more attention than they can receive in a general communication like the present.¹

The lion is the centre of a circle of six enamelled disks, each of which contains a shield of Scottish arms. Experts in old silver pronounce the boss to belong to the fourteenth century on account of its technique, already alluded to; the heraldry which it displays corroborates the view which is grounded on its art, and further restricts its period to a few years in the first quarter of that century.

The shields on which this conclusion regarding the date of the Mazer is based are of an exceptional interest of another kind; they are the most ancient surviving instances of enamels containing Scots armorial shields in their full emblazonment of metal and colour. So far as I am aware, they are also the earliest examples of the arms which they display, in their tinctures in any material.

Lastly, there is the question, how these coats of arms come to be placed in a circle round a figure of a lion, on the boss of a drinking-cup, in Scotland at a time nearly as early as the date of the battle of Bannockburn? And it demands an attempt at least at an answer; and, in default of a theory, then, at any rate, a speculation!

The steps of the history of the Mazer can be traced back from the present day to the date of its first owner, the person by whose instructions, and, perhaps, under whose eye, it was made; and these ought, naturally, to be recorded as an adjunct of the proof of its authenticity, and because what is known of its origin seems to go along with other apparent indications of its original purpose. Before it passed to its now owner, the Marquis of Bute, it had descended to the present Chief of MacGregor, into whose family it had come by the marriage of his ancestor of four generations ago with the heiress of MacLeod

¹ For the several opinions of Mr Lionel A. Crichton and Mr William Brook, see below, Appendix, pp. 251, 252.

of Bernera. The MacLeods had had it in virtue of a marriage with the sister and heiress of the last of the Bannatynes, lairds of Kames. Whether the Bannatynes handed down any tradition that the Mazer had descended to them, as it now appears that it presumably did, from the FitzGilberts, who preceded them in the lands which they held in Bute, I have not ascertained; but there is a settled tradition that they received the lands by such an inheritance; and there can be little doubt that the owners of the lands and the owners of the Mazer were the same people before the incoming of the Bannatynes, as they were after. That the originator of the Mazer was a FitzGilbert, although it is a theory which has not hitherto been advanced so far as I know, will probably be received with a very considerable amount of favour.

The cover of the Mazer, which is probably contemporary with it, is also unique among mazer-lids, in its material and ornamentation; and can be usefully considered only by specialists in zoology and botany. It is also, like the boss of the vessel, very remarkable in both its design and its workmanship.

The observations on the Mazer, which I propose to offer for the consideration of the Society, may perhaps be divided, for convenience, into sections headed as follows:

1. The wooden bowl which is the foundation of the Mazer.
2. The mazer-band and its inscription.
3. The straps.
4. The foot.
5. The boss and its ornamentation.
6. The cover: its material and ornamentation.
7. The heraldry of the boss, and its testimony to the date of the vessel.
8. The theory that the Mazer was made for John (?) FitzGilbert, or Gilbertson, Keeper of Rothesay Castle.

1. The Wooden Bowl.

The wood of the bowl, too dark now to be identified with certainty by the untutored, is pronounced to be "eyed" or "bird's eye" maple, the wood of which all vessels of the name were anciently understood to be made. The accepted explanation, indeed, of the name "mazer" applied to the bowl or cup is that it is a case of the transfer to the manufactured article of the name of its material¹—*mazere* wood, a term which implied that the wood was spotted or variegated, and which was applied to the kind of maple wood which was so.

¹ We have a parallel case of the transference of the name of the substance used to the particular article made of it, in the term—"a glass."

The title "mazer" has thus no reference to the size or relative proportions of the vessel; it was applied equally to the great mazer-bowl of York Minster which is over a foot in width across the mouth, and is suited only to be a common cup—a "grace cup" as it was, for a large community, and to the individual cups of Durham, of which it is recorded that each monk had one for himself.¹

The attractiveness of maple in the Middle Ages for the purpose to which it was thus put has been variously accounted for. Its suitability for the operation of the turner, and its beauty when the bowl was made and polished, have been suggested as explanations which were sufficient.

But it may be permissible to suggest also that the wood which has been popularly recognised as "eyed" may have been supposed to be a nature-made protection against the "Evil" eye. The maple wood which was in most request on account of its markings was not the most suitable wood of the maple tree for the chisel. The maple also was certainly not in all respects the tree which was most likely from a woodman's point of view to supply the wood for a bowl of any considerable size, for it was notorious for the liability of its timber to failure at the centre of the trunk.

Spenser in the first canto of his *Færie Queen* has a list of the trees under the shelter of which he tells us the thankful birds sing in spite of the tempest, and he ends it with:—

"The fruitfull Olive, and the Platane round,
The carver Holme, the Maple seeldom inward sound."

It has even been surmised that it is to that failure, or to the frequency of it, that we owe the tradition of the print or boss, which, when it is present at all, covers the centre of the bowl. And it will be seen presently, if it has not indeed been seen already in the preliminary description of the Mazer under consideration, that the boss is not always a mere ornament.

The wood here, in conformity with that in all other such vessels, is perfectly plain as regards its surface, untouched by any inscription or other carving. There is nothing about it beyond its appearance of great antiquity to indicate the century to which it belongs, unless it be that its depth in comparison with its width may afford a clue.

None of the other surviving Scots mazers is early enough in date to assist in this inquiry; but it has been ascertained in England, that there, from the earliest times of mazers with metal (usually silver) rims, down till about 1450, the wood was comparatively deep and the metal rim round its edge comparatively shallow. Fashion then began to alter their relative proportions. The wooden part became shallower, and the

¹ *Rites of Durham*, Surtees Society, xv. 68, 69.

band became deeper. From being in the main a protective edging, the band came in time to be a material portion of the wall of the vessel, and, incidentally or otherwise, a field for a great increase of ornament. This form in which the wood was shallow, and the band deep, held its place for a century, till about 1550, when taste began again to revert to the deeper bowl with a band which was shallower and simpler.¹

Mediaeval Scotland in such matters of fashion usually followed the example of England, but with so little alacrity as to lag behind at times by the space of twenty years or so. According to that computation, the dates between which the shallow bowl and the deep band were in fashion in Scotland may be said to have been 1470 and 1570.

The bowl in the present case is comparatively deep; and may, on that account, belong to the long period before 1470, and if so, to the date of the boss to which it is attached. It might also, of course, be a product of the second period, if there were no reason to the contrary; but the mazer band and its inscription, which are about to be considered, constitute just such a reason. It will be found that they testify to the existence of the bowl before the advent of the second period, which took place about 1570 or so.

The experts in old silver are unanimous, I believe, in considering that the style of the inscription alone places the band in the first part of the sixteenth century; and their view is corroborated by the nature and contents of the inscription, inasmuch as it contains the name of Ninian Bannatyne—presumably the owner of the Mazer, and that he is described as the son of his father, Robert. In the history of the family there was only one laird of the name of Ninian whose father's name was Robert; and the retours and other family documents in the possession of his heir of line testify that he succeeded his father in 1522 as a young man and unmarried.

Ninian survived for a number of years, married, and fulfilled various public offices connected with his county, but the wording of the inscription, in which he is thus described merely as the son of his father, suggests a description of a young man, rather than an old one. The band thus appears on that account also to belong to the earlier part of the century.

The bowl must, therefore, belong to some date before 1470, when such bowls went out of fashion. In that case there is nothing against its having been made more than a hundred years earlier—about the date of the boss, soon after the year 1314.

¹ *Archæologia*, vol. i. part i. p. 135; *British Museum Guide to Mediæval Antiquities*, 1924, p. 175.

2. *The Mazer-band.*

The mazer-band, as the silver mount round the edge of the bowl is called, has probably succeeded a narrower band; and it is possible that if the present band were removed, marks of the fastenings of such a rim might be seen as they are on edge of the cover which is to be mentioned.

The band, which has already been partly described, is 1 inch in depth inside, and 1½ inch outside. As is almost invariably the case, it is plain on the inside, but as is usual, at its date, it is ornamented over its whole outward surface, the ornament consisting in this case

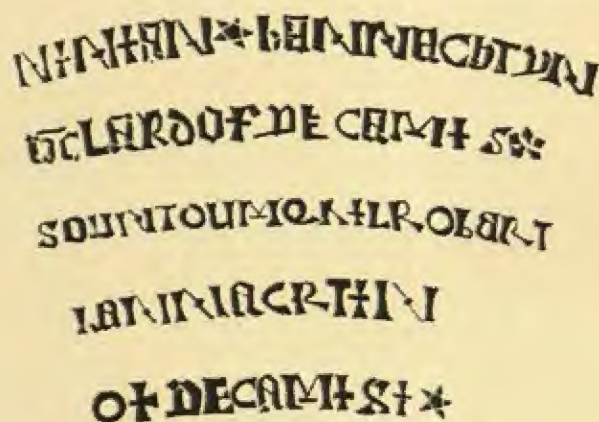


Fig. 3. Bannatyne Mazer. Reduced fac-simile of the legend on the band, divided for convenience into sections.

principally of an inscription in large letters, which has been alluded to already: NINIAN BANNACHTYN LARD OF THE CAMIS SOUN TO UMQHIL ROBERT BANNACHTIN OF THE CAMIS. The marks used in the punctuation will be seen in the illustration¹ (fig. 3).

This is the only Scots mazer which carries an inscription on its band. The characters used are of a transitional kind, marking the beginnings of the abandonment of Lombardic and Gothic characters, and the renaissance of the Roman. The inscription consists mostly of capitals of the last-named lettering, somewhat fanciful and uncertain in style, and with, here and there, a letter of Lombardic or Gothic style, which the engraver was evidently more at home with. The capital E at its first occurrence resembles the Hispano-Gothic E (Ē) reproduced by Mr E. F. Strange (*Manual of Lettering*, 1921, p. 43).

¹ As the inscription is engraved in a circle, the punctuation mark printed after CAMIS might as properly be printed before NINIAN.

The inscription affords incidentally a specimen of the circumstances in which the confusion between the heavy *th*, meant to be written in the form of the "thorn" (*þ*), derived from the Saxon alphabet, and the letter *y* may have arisen.

The word *the* occurs in the inscription twice. On the first occasion, it appears as *ht*, which might run a risk of being transliterated by the use of the modern lower case *y* and pronounced *ye*; but close to it is an indisputable *y*, in the word *Bannachtyn*, so the character employed is not a *y*. It is thus none other but the *þ*, which stands for the sound of *th*.

On the second occasion of the occurrence of the word *the*, the tail of the *thorn* is made, for want of space, to lie horizontally. Thus modified, (*Ų*), it might stand for a good capital D. The word meant for *the* might there be transliterated as *de*; and the reading be defended by citations such as the accepted title of Hoccleve's well-known poem, *De Moder of God*, both in its English and Scots versions.¹

The punctuation marks which occur at four places in the inscription, and appear to be meant to call attention to words more than to guard the sense, may be attended to on account of their natures.

Before the word *Ninian* and after it, is a *mullet* (*✠*). After the next word *Bannachtyn* and before *Lard* [laird] of the *Camis* is the sacred monogram — *HT* (*ih̄s* in Gothic lower case, the first two letters contracted); and between the last-mentioned word "*Camis*" and "*soun to Robart*" etc., is a *cinquefoil* (*✠*). This last figure is cut with perhaps as much trouble, though perhaps not with as much artistic success, as the *cinquefoils* in the spandrels on the boss to be noticed on a later page.

The Monogram, introduced as if it were a pious exclamation, is not uncommon among the surviving mazers of England of the end of the fourteenth and end of the fifteenth centuries.²

Of the *mullet* and *cinquefoil* in the inscription it may be noted that the *mullet* was the bearing of the Bannatynes, and that the *cinquefoil* was the bearing of the family from which the Bannatynes, it will be argued, had the bowl by inheritance.

The letter "I," added at the end of *Camis* on the second occurrence of that word, is possibly a mere blunder of the engraver;³ in these inscriptions such slips were not unknown. On a mazer belonging to the

¹ *Scot. Antiquary*, 1898-99, vol. xiii. p. 111.

² Sir William Hope, *Archæologia*, vol. i. part i., 132, 146, 155. On the print of one mazer of about the year 1500 is the inscription—"robert chalker Ihesus": *Archæologia*, i. i. 162.

³ But the letter which resembles R in Robert's surname is in reality an H.

Worshipful Company of Ironmongers, London, the words *Ave Naria* occur, instead of *Ave Maria*;¹ and the Shirley bowl has *Tirnite* instead of *Trinite*.² The Galloway mazer has *mane* for *name*.

Above the flat of the band, which bears the inscription, is a narrow belt ornamented with a diaper of cross lines; and below it is a cavetto containing a close succession of pellets. Below the cavetto again is a fringe of conventional feather points, which gives the band a scalloped edge.

Both in details of these sorts, and in the assemblage of them, the band has points of resemblance to the bands of a number of English bowls of more or less the same period. The band of the Rochester mazer (A.D. 1532-33) now in the British Museum is one of these (fig. 4).



Fig. 4. The Rochester Mazer.

The presence of a sixteenth-century band on the Mazer which we are considering casts no suspicion on the greater antiquity of the bowl. Additions in aftertimes to bowls of fame and value was well known. The mazer cup which belonged to Saint Thomas of Canterbury, who died in 1170, appears in an Inventory of 1315 of the plate belonging to Christchurch Priory there, in probably a much more glorified state than it was when it was used by the Saint himself. It is entered as "the cup of Saint Thomas, silver and gilt inside, with a foot added to it" (*cuppa Sancti Thome, intra argent'et deaur' cum pede operato*).

The venerable Bede's mazer preserved in the Frater-house at Durham received several notable attentions in aftertimes. While the outside remained of black maple, "the inside was of silver double-gilt, the edge finely wrought about with silver and double-gilt; and in the midst of it the picture of the holy man Saint Bede, sitting as if he had been

¹ *Archæologia*, l. i. (Hopè), 180.

² *Argent' et deaurati*, *Archæologia*, l. i. 176.

³ *Ibid.*

writing." It is added in the record that the mazer had "joints of silver from the edge to the foot,"¹ a strengthening device which is so late in its introduction as to be sometimes called in England Elizabethan.

3. *The Straps.*

The Mazer is distinguished by the remarkable addition of six substantial as well as ornamental silver straps, which embrace it, and connect the band and foot to each other. They seem to be of the same date as the band to which they are attached, belonging thus to some point of time only a few years at most after 1522. Their occurrence would have been deemed to be early by Sir William Hope, who pronounced straps to belong in England to the reign of Queen Elizabeth (1558-1603).

Each strap is a strip of silver plate, $\frac{1}{2}$ inch in width and $\frac{1}{8}$ inch in thickness, and scalloped at the edges to repeat the idea of the lower edge of the band.

Down the middle of the strap is a narrower strip with straight edges on which again is a still narrower pallet with edges which are counter embattled.

Each strap is connected at its finals to the band and foot respectively by means of a joint or hinge; and including these it is 4 inches long.

Straps in any number are uncommon on mazers. None of the other Scottish mazers possess them. And among the fifty or sixty mazers existing to-day in England, only three have straps, in two of these cases four straps, and in one, three.

In the case of one of the first two—the late fifteenth-century mazer belonging to the Worshipful Company of Armourers and Braziers of London, the straps are known to have been added in 1579—(*Archæologia*, l. i. 172) (fig. 5). The other mazer alluded to is the highly interesting vessel described and figured in *Archæologia*, l. i. 173 (fig. 22), where it is mentioned as belonging to the Rev. H. F. St John, and dated A.D. 1585-6.

The cup which has three straps is now in the British Museum as an item in the Franks' Collection, in the Catalogue of which it is described as "a small cup of mahogany-like wood, mounted in silver . . . the rim and foot jointed by three hinged bands with vandyked edges . . . English, late seventeenth century. . . ."²

The mazer of the venerable Bede, which was preserved at Durham, is recorded, as already said, in the *Rites of Durham*, to have been

¹ *Rites of Durham*, Surtees Society, xv. 68, 69, per *Archæologia*, l. i. 133-4.

² *British Museum Catalogue*, p. 4, and Pl. vii., left hand.

furnished with four joints of silver coming down from the edge to the foot.¹

There is reason to believe that mazers with six straps were known in England at one time. A mazer belonging to Epworth Church, Lincolnshire, has lately been found to have marks just below the edge of the band, which indicate that it had at one time six metal attachments which may have been connected to a "foot." But of the foot, if there was one, says the account, no other trace remains.²

Sir William Hope, after considering the two extant examples with



Fig. 5. The Armourers' Mazer.

four straps in England, concludes that it was taste, not their utility, that accounted for the introduction of these additions.

There seems certainly to be no evidence in the history of the mazer of the introduction of straps at any very early period. But as there was a practice of embellishing such of these vessels as had come to be venerated, as in the cases already cited of the mazers of the venerable Bede and St Thomas of Canterbury, it is only reasonable to suppose that a practice also grew as soon as it was requisite of re-enforcing such of them as were valued, and had come to be frail.

The six straps of the Bannatyne Mazer are doubtless very highly ornamental, but considering the width of the perforation of the wood under the boss, and the weight of the boss and the foot, it is difficult to say that even in 1522, or thereabout—if that is their date—the addition of these stout supports was not viewed as at least a wise precaution for the preservation of a bowl which had been in use for two centuries.

¹ *Archæologia*, vol. I. part I. p. 133.

² *Ibid.*, p. 165.

4. *The Foot of the Mazer.*

The inner rim of the foot, on which the wood of the bowl rests, is $5\frac{1}{2}$ inches in diameter, and from it extends outwards and upwards a narrow flange of $\frac{3}{4}$ inch wide, which lies close to the bowl.

The circle on which the foot and the boss join is $5\frac{3}{4}$ inches in diameter.

The foot is $\frac{1}{2}$ inch deep. Its sides curve outwards slightly to its lower and outer edge, which ends in a narrow round moulding, and is $6\frac{1}{2}$ inches in diameter. Its whole surface is plain.

In the circumstances it may be thought to belong to the sixteenth century. I am inclined to think that it, or perhaps more probably an earlier foot, was originally completed with a floor-plate; and that the under side of the boss was not meant to be left open to view as it is now. But it would be difficult to say that any trace of such an attachment is visible now.

On the other hand, it is quite certain that at no time has any stalk been added to it, to convert the vessel, as some were converted, into a "standing mazer," the fashion of cup which was in use later, mainly in the sixteenth century. It is the only remaining Scots mazer which has not a stalk.

5. *The Boss and its Ornamentation.*

The boss, which, as usual, is circular, is larger in diameter than any other existing boss, plate or "print" known to the books; it is $5\frac{1}{4}$ inches in diameter. It has been seen already that it is an essential part of the construction of the Mazer, being the sole continuation of the bowl at its centre to which part the wood does not extend. Near its periphery it is soldered to the circular edge of the foot, which comes up to meet it. It is thus impossible to accept the theory that the idea of the boss or print had been derived from some older fashion in bowls as it was unnecessary to the Mazer.¹ It may be of no structural necessity in the case of any of the English cups or bowls which survive; but these are a very small minority of the mazers which existed once; and there are early notices of mazers which indicate that these vessels were not all identical with each other in respect of that part of them (fig. 6).

The terminology of the great Inventory of the mazers, 180 or thereby, which existed in the Refectory of Christ Church Priory, Canterbury, in the year 1328, infers that, while a number of these vessels had "plates," others were furnished with something else; for it is not said that they had "plates" but *castones*. The word *castone*, which was correctly deciphered

¹ *Archæologia*, vol. i. part i. p. 131.

first by Sir Wollaston Franks, and which has been found, it is said, only at Canterbury, was thought by Sir Wollaston to be related to the French word *chaton* and to mean a socket. But the Inventory describes some of these castones as of silvergilt, some even as set with gems. So



Fig. 6. The Bannatyne Mazer: direct view of the boss.

I venture to suggest that, granted the relationship of the words, the word *castone* had been transferred in the Canterbury use, from its meaning of socket to that of the disk or plug which filled the socket—was socketed. But whether the castone was the socket or the thing that filled the socket, a breach, artificial or natural, in the continuity of the wood seems to have been implied.

Mazers were sometimes, apparently, cut from the excrescences which grow on the maple trunk or branches. These would presumably be liable to no particular weakness at their centres; but it might be otherwise with those which had been cut from the round of the tree

with their centres coinciding with the tree centre, which the poet Spenser so doubted of.

The boss is of silver, and has been heavily gilded. Its outer rim is of flat plate $\frac{3}{8}$ inch wide and $\frac{1}{8}$ inch thick. The rest is cast, and has been made in two pieces. The first casting appears to consist, if we judge by its upper side, of two platforms. The larger of these is a disk, 5 inches in diameter and $\frac{1}{4}$ inch deep. On it lies, about $\frac{1}{8}$ of an inch higher, a smaller dais somewhat like a double trefoil in outline, its six foils being nearly complete semicircles, and forming bays which extend outwards to within an eighth of an inch of the edge of the disk



Fig. 7. Roger de Quincey, Constable of Scotland, 1220-64. Counterseal.

which they lie on. In the centre of each of the six bays is a circular area, $\frac{1}{4}$ inch in diameter, enclosed within a narrow raised edge. These will be further mentioned presently.

On the centre of the dais lies the second casting, which represents a lion *couchant*, in full relief, his body measuring a fraction under 2 inches in length. The first casting has been cut away where it would underlie the second, so far as to allow of the soldering of the two together from the under side. Both castings are excellent in their workmanship and notably thin. The lion's head is markedly erect; the fore paws well spread out; the tail gathered up between the hind legs and flexed over the loins; the eyes are crimson enamel; the mane closely curled in a style which is somewhat Byzantine, and similar to the mane of the lion on the counterseal of Roger de Quincey, Constable of Scotland, A.D. 1220-64 (Laing, *Seals*, i., pl. xi. 2) (fig. 7). On the floor of the dais, round the lion and the circles in the bays, is engraved a continuous spray of the strawberry plant, with fruit and leaves.

In the six spandrels, between the bays and the edge of the disk on which they lie, are engraved three heraldic cinquefoils, and, alternately with them, three wyverns of a medieval type.¹ The wyverns are dotted over with small marks as if to indicate *ermine*. The ground round the spray and the other figures is covered with a fine matting of flat chasing.

The plate within each of the six circles above mentioned has been cut out, leaving a circular hole in which to place a disk, $\frac{1}{4}$ inch in diameter, for the support of which a thin floor-plate has been added with a small hole punched in it for the escape of air or superfluous cement on the introduction of the disk into the little box or caisson thus formed. The disks, which are enamelled (*champlevé*), have been made separately, before being set in their places. They contain, each of them, a heater-shaped shield, of arms which are emblazoned in their heraldic metals and colours. The shape of the shields, and the drawing and proportions of their charges, are very excellent in design, and the execution of them is decisive and regular. As coats of arms, and apart from their art and present condition, they will have to be adverted to again more particularly, to ascertain what they establish regarding the date of the Mazer.

For the present it may be noted that they are the arms of Stewart, Menteith, Douglas, Crawford, Walter FitzGilbert (of Hamilton), and a FitzGilbert cadet; and the plates at p. 244, representing the boss with the shields reproduced in their colours, so far as it can now be done, is referred to. The first five of the shields are of the arms of known houses, and are probably by far the earliest extant cases that are known of the occurrence of any of them in their heraldic tinctures. The sixth is a shield which is known only by its appearance on this vessel.

The enamels, and even the metals with which the shields have been emblazoned remain in them in very various degrees of preservation. If the unaided eye can be trusted, everything which should be blue among the enamels, namely, the *chief* of Douglas, and the alternate *chequers* of the Stewart *fess*, so far as these last have lasted out at all, are now black. At the same time it has to be said, however, that the photographic camera testifies that that "black" is not the same in all lights with the black which remains in those *chequers* of the bend of Menteith, which, according to the history of that shield accepted by the heralds, were originally meant to be black. There is evidence that the *field*

¹ The wyverns in the spandrels at the sides of the shields on two of the seals of Robert Bruce, Earl of Carrick, the father of the King, A.D. 1285, figured in Laing, *Seals*, i. 140; and A.D. 1298, figured in Astle, *Seals*, vol. iii., p. 28, plate xxviii., fig. 21, are somewhat similar.—Macdonald, *Scottish Armorial Seals*, Nos. 277, 278. Eight monsters of different sorts—wyverns, harpies, etc., appear in the spandrels at the lower ends of the shields in a fourteenth-century Norse drinking horn, which will come to be mentioned presently in respect of its heraldic embellishments, p. 237, footnote 2.

and *stars* or *mullets* of the Douglas shield, which are heraldically understood to be of silver, were at one time overlaid with a thin layer of a more brilliant white metal. Traces of it still remain; perhaps it is electrum.¹ For the rest, the gold and red, and perhaps the ermine, are as they were originally.

The spaces which are within the disks, but not covered by the shields, are enamelled in dull tints of green or brown. The shield of Stewart is set in a translucent enamel of a bluish green, through which can be seen a raised spray on either side, which has small leaves at its top, and curves round a flower. Mr Edwards, who has called attention to this, also discerns through the enamel surrounding the Fitz-Gilbert shield a pattern containing a flower which may be a cinquefoil. But the enamels were presumably all translucent originally, as the floors of the compartments on which they were to rest were diapered with patterns or designs before the enamel was laid on. That this was so can be seen in the cases of those in which pieces of the enamel have been accidentally chipped off. Round the Douglas shield the diaper consists of short parallel and nearly horizontal lines. Round the Menteith shield it is *lozengy*, more or less *fess-ways*, each lozenge having a spot in its centre. At the sides of the Crawford shield it is an ogee line. At the sides of the cadet coat of Fitz-Gilbert it is a scroll or spray with leaves at its ends,² seemingly meant for the same strawberry spray that is engraved on the floor of the boss, so far as it could be repeated on so miniature a scale.

6. *The Cover; its Material and Ornamentation.*

The cover consists of a circular plate of bone about 9½ inches in diameter. Professor James Ritchie of Aberdeen, who was good enough to examine it in the Royal Scottish Museum in Edinburgh at the beginning of October,³ pronounces it to have been "cut from the ramus of the lower jaw of a sperm whale . . . probably a whale which had been accidentally stranded on a Scottish or English coast. . . ." "The under surface of the cover," he says, "is practically the outer surface of the natural bone, whereas the carving on the upper surface of the cover has been incised upon the inner surface, which has been rubbed down, not to a very great extent, to a suitable thinness. The slight curvature of the cover, which might be mistaken for artificial warping, is the actual curvature of the sperm jaw, at a place roughly half-

¹ Gold whitened by the addition of an alloy commonly consisting, it is said, of a fourth part of silver.

² Mr Daniel Stewart of Messrs Brook first called our attention to this, which was then scarcely visible.

³ October 1890.

way between the end of the tooth row and the area of articulation with the skull."¹

A conclusion that, at the least, the whale was caught in no very distant sea, and that the cover was not only cut but carved while the bone was still new, may receive some support from the fact that the cover, though, roughly speaking, it is circular, is, by strict measurement, $\frac{3}{16}$ of an inch shorter in diameter across the grain of the bone



Fig. 8. The Bannatyne Mazer: upper side of cover.

than it is along it—the measurements being $9\frac{11}{16}$ inches by $9\frac{1}{2}$ or thereby—and that the ten disks which form parts of the pattern carved on it exhibit, so far as the roughness of the work allows of any decided opinion, a proportionate distortion in the same direction. In other words, the natural shrinkage of the bone was not complete before the carving was begun.

The bone, which has been left of its natural colour, is now somewhat yellowed by age. It is about $\frac{5}{16}$ of an inch in thickness at the centre, and $\frac{3}{8}$ at the circumference, where it ends with a round edge and a bead of $\frac{1}{8}$ of an inch in diameter, on its under side.

¹ For Zoological Note by Professor Ritchie, see below, Appendix, p. 253.

At its centre the cover has a small silver handle consisting of a round flat-headed knop of $\frac{1}{2}$ inch diameter, standing about $\frac{1}{4}$ of an inch high on a neck $\frac{3}{16}$ of an inch long, rising out of a small silver plate which is shaped as a cinquefoil. The plate is $1\frac{1}{2}$ inch in diameter, and stands on a disk of the same diameter which is marked out on the bone of the cover as the central spot of the pattern of the carving which covers it.

The stalk of the handle passes through the cover, and is riveted on



Fig. 9. The Bannatyne Mazer: under side of cover.

its under side through two silver plates. These plates lie one on the top of the other, each shaped in the form of a cinquefoil, the plate next the bone being $1\frac{1}{2}$ inch in diameter. The plate next the rivet head is $\frac{9}{16}$ of an inch across, and its points are placed on the spaces between the leaves of the larger plate. In addition, a pin is passed through each of the leaves of the cinquefoil on the upper side of the cover, and the corresponding leaves of the larger plate below, and riveted.

If we may judge by the presence of the remains of five or six small metal pins, sunk in the bone at intervals, each of them at a distance of about $\frac{1}{2}$ of an inch from the edge of the bone, the cover has been bound at one time with a narrow metal rim—presumably of silver. The rim

has left no other trace behind it; and the carving, which extends to about $\frac{5}{16}$ of an inch on the edge of the bone, suggests that the outline of the metal on its upper as well as its under side was plain, and that the rim itself was in bulk not much more than a mere beading.

The under side of the bone plate is plain. Its upper side is entirely covered with a design which is circular in its outline, but characterised mainly by the five-sectional arrangement of its ornamentation within.

A brace of narrow ribs containing between them a continuous row of small pellets reaches to the circumference from each of the five points of the silver cinquefoil at the centre, crossing, on its way, the middle of a similar brace of ribs with pellets which forms a side of a pentagon which the circular boundary of the design just clears. Over each of these intersections of the ribs is a flower somewhat of the appearance of a marigold, daisy or sunflower, consisting of two concentric circles of twelve short petals, with a parterre of seeds (usually fourteen in number, but in two cases twenty-three) at the centre. Nearly half-way up from the circumference of the cover to its centre, each brace of ribs passes under a similar flower.

Each of the ten flowers is placed on a plain disk; the inner five of the disks taking the place in a smaller pentagon which, in the larger pentagon, is taken by the outer five sunflowers.

The straight lines of the sides of this smaller pentagon, which are parallel with those of the larger figure, are formed of a brace of ribs lying close to each other without pellets between. These ribs are continued past the angles of the pentagon so as to form the branches in a conventional ramification, with angles and curves and interlacings, and end in leaves which fill the rest of the space. The leaves are generally somewhat diamond-shaped, and occur usually in sets of four.

Professor Wright Smith has been good enough to look at the ornamentation of the cover from the botanist's point of view, and classes his observations on it under three heads: (1) The silver flower at the centre. (2) The flower which occurs in the carved pattern on the bone. (3) The leaf design on the bone.

As to the first, the cinquefoil shape of the silver shield out of which the knop rises, is in the circumstances to be taken for a mere repetition of the heraldic cinquefoils of the Mazer to which the cover belongs; and as the cinquefoil idea has not been extended by the carver further beyond the knop, it calls for no further botanical reference in regard of the cover. As to the second head, the flower in the bone carving, Professor Smith considers that in its resemblance, it "comes nearest to the 'flower' of a composite, such as marigold, daisy, or sunflower." As to the third question—the leaf design "fits in best

with the leaf of the helebore or some other member of the buttercup family." Any positive identification of the carvings with any particular plants in the natural world is thus not to be insisted on; but the Society will be glad to read for itself the Professor's very learned letter.¹

The excellence of the design on the cover and the high order of its workmanship are remarkable. The date of the work, however, is difficult to determine. There is nothing about it to suggest that it is not as early as the fourteenth century. It might even be earlier. But the position on it of the cinquefoil, which is a significant decoration of the mazer-boss, and is here the decoration of the handle, lends strength to the presumption that it and the Mazer were made for the same master. I have not been fortunate enough yet to discover any carving in the museums or elsewhere which appears to be sufficiently related to the design here elaborated, either in general idea or in detail, to assist us to any further conclusion regarding it.

7. *The Heraldry of the Boss, and its Testimony to the Date of the Vessel.*

The heraldry of the Mazer, already noticed incidentally, has now to be examined as to its details, in order to ascertain what light if any the shields which compose it, arranged as they are in it, may be found to throw upon the history of the vessel, its date, the part of the country to which it specially belonged, and, by further inference, perhaps the very table and the company for which it was made.

The credit of the shields themselves appears to be well established when the object for which they were made, and placed where we find them, is realised. The object was the decoration of a convivial bowl² of the kind that was circulated round the table and drunk out of by each of the company as it passed.³ The shields were thus meant to be

¹ For Botanical Note by Professor W. Wright Smith, King's Botanist, see below, Appendix, p. 254.

² A similar armorial decoration of much delicacy of execution is seen on a convivial drinking horn, considered to have been made in the same fourteenth century, and to have belonged to an aristocratic guild in Norway. Round the mouth of the horn is a deep silver band on which are the shields of the "five greatest houses, royal and baronial, in Norway," and with them the shields of three houses belonging to Orkney.—"An Old Norse Drinking Horn," by J. Storer Clouston (*Proceedings of the Orcadian Antiquarian Society*, vol. viii. session 1929-1930, pages 57-62).

³ I and one or two others have thought that the design of the decoration found on the boss was too exalted to have been meant for the ornamentation of the bottom of a bowl, but had been intended for the embellishment of the cover of a chalice of some sort: but I, for my part, have relinquished that idea in face of arguments against it which, I consider, are not to be withstood. It may well be that no surviving mazer possesses a centrepiece of such distinction: but it would be difficult to say after a study of the literature of the subject, that any theme was too high or any design too ambitious to be meant for employment on a mazer boss.

seen by all, and also read by all; for, at the period to which the bowl belonged, heraldry was a living language, understood by all. The shields, in addition, as we have seen, were (all but one of them—and his presence will, perhaps, be thought to be accounted for) the shields of famous Scottish houses; and when it is remembered that they appear as the ornament of a vessel for a festive board, it must be assumed that when they were placed there they were not mere mementos of the dead, whose memories were to be honoured in solemn silence, but as the ensigns of the living—of the members of a circle of friends or allies, perhaps the feudal superior and his vassals, personages who might actually feast together, so that the bearers of the arms on the bowl might perchance drink out of the bowl themselves. In this view the shields of the boss were contemporary statements of facts, and their occurrence on it was as good as a contemporary publication of them. The facts too of personal bearings in those times were of such importance, and so near to the honour of the persons whose arms they were, that any carelessness or liberty taken with these by a friendly hand was out of the question. The shields before us are thus very excellent evidence of the accuracy of all the details of their contents.

The theme of the group on the boss is apparent. In the centre is the lion—in Scotland, in the language of mediæval symbolism, the King's beast; and round it in a complete circle are further symbols—the heraldic shields of six of his faithful vassals belonging to the Stewartry, the shields being placed with their *chiefs* toward the lion, so that the lion is above every one of them—as the Superior acknowledged by every vassal.

In the most favoured and honourable position, if any position in the circle is so, is the shield of the High Steward. On either side of it are the shield of Menteith the Lord of Arran, and the shield of the Douglas. The other three are the shield of Crawford, the shield of FitzGilbert progenitor of the house of Hamilton, and next to it the shield of another FitzGilbert, presumably, as we may see, a brother of the last, and the possessor of some title yet to be determined, to sit at table with the Steward, and the Steward's other vassals.

But though at first sight the position of the Steward's shield might be thought to indicate that he was the owner of the Mazer, further observation of the boss finds marks on it which alter the conclusion to this, that the Steward had his position in the circle not as mere lord of the Mazer but as the lord of the owner of the vessel. The ornamentation of the bowl, specially of its boss, contains emblems which favour the view that its first deviser and owner was a FitzGilbert, and it may be that he having the designing of the boss, and the disposing of the shields, placed his own shield not first, but last, and that, on account

of some peculiarity in his position. It will be convenient, however, to defer the consideration of the positive evidence of the ownership of the Mazer until, by the scrutinising of the shields in the circle generally we have ascertained what they contribute to the determination of the date of the vessel; in other words, the date to which its deviser and first owner must belong.

1. The shield of the High Steward which lies between the lion's forepaws bears—*Or, a fess chequy azure and argent*, as has been said.¹ It has to be noted that it is the shield of the Steward without the augmentation of the Royal tressure. In other words, it is here as it was borne by the High Steward from the earliest time at which he bore a *fess* as his arms, down till the year 1369, or thereby, when the Royal tressure first appeared on it.

If the boss is to be dated earlier than 1328, as we may come to think it is, the Steward whose arms it bears was Walter, one of the great leaders of the nation in the War of Independence, Regent of the Country for a time, and, it may be added here, first cousin of that other great leader, the "Good Sir James" of Douglas. He was the same Walter who married the Princess Marjory, daughter of King Robert I., and was the father of Robert the Steward who eventually ascended the throne as King Robert II.

Were the Mazer to be dated after 1328, Walter by that time was dead, and Robert his son had succeeded to the Stewartry. In 1329, by the death of Robert I., he became heir presumptive to the throne, but his arms of Steward do not appear to have received the honourable augmentation of the Royal tressure till the year 1369, about a year before the death of David II. and his own accession.

2. The shield on the dexter side of the Steward's escutcheon is the shield of the famous Douglas.

Of all the arms in Scottish heraldry to-day the shield of Douglas is, next to the shield of the King himself, the most widely known. The mark on it, which all—whether heralds or not—recognise first, is the red heart; for everyone of us knows, or ought to know, the true story of the loving deed of vassalage performed by the Good Sir James when, in the year 1330, he took the heart of his dead friend and master the King, according to the Bruce's dying command, to the Holy War, then waged in Spain, and how there he fell in the performance of his heroic part against the enemies of the Cross.

But the shield on the Mazer is the shield of the arms of Douglas before the day on which the heart was added to them—it is *argent*, on

¹ Strictly speaking, it is *argent* and azure.

a chief azure three stars of the field, and nothing more. These were the arms of Douglas as they are found on the seal of 1296, of Sir James's father William "Le Hardi." On William's death, in the following year, they descended, according to the law of Heraldry, to his son Sir James himself. It is remarkable, however, that although the seals of Sir James's successors establish the fact that the arms were actually as well as legally his in his time, the appearance of the shield on this Mazer is the only direct contemporary proof of it now left to us, so far at least as I have been able to discover.

Owing to Edward I.'s confiscation of his paternal lands in the time of his father, Sir James had no call to seal charters for many years. It is true that from 1320, or thereabout onwards, he was in the possession of extensive territories. Still no seal of his appears to have been discovered by the students of such things.¹

Note.

Most writers have been loth to relinquish the preposterous fable of the command of King Robert that his heart should be taken to the Holy Sepulchre at that date—in 1330! But the wording of the Pope's narrative which he prefixes to his mandate to the Bishop of Moray to absolve all who had been concerned in the removal of the King's heart from his body, and out of the Kingdom, from the excommunication which they had incurred is sufficiently explicit. It narrates that King Robert had left a dying injunction that his heart should be taken out of his body and carried to the war against the Saracens—"in bello contra Sarracenos" (nothing about the Holy Sepulchre), and that, accordingly, Sir James had taken it to Spain into the war against the said Saracens *according to the King's wish*—"in Ispaniam in bello contra dietos Sarracenos juxta voluntatem ipsius Regis."²

So the whole story of the inflexible Douglas being lured aside into Spain from the course of his duty is an idle fable. So, also, we may be sure is the civilian tale of his dramatic act in flinging his precious and defenceless charge out of his keeping.

That the Douglas shield, however, which has been placed on the Mazer on the immediate right of the High Steward's is incontestably placed there as the shield of the Good Sir James, will appear when the

¹ Laing, Birch, Sir William Fraser, Rae-Macdonald, and so on.

² Papal Mandate, 6th August 1331, per Theiner, *Vetera Monumenta*, 1864, p. 251, No. 498. Gray, *Sealacronica*, 1355 (Maxwell's Translation), p. 96, is also clear.

Mazer is ascertained, as it will presently be, to have been made not only before 1330 but well before 1320, and after 1314.

3. The shield on the sinister side of the Steward's bears—*or, a bend chequy sable and argent.*

The arms are those of Menteith which were in use by that branch of the Stewarts shortly after the beginning of the fourteenth century, or perhaps even earlier. They originated in the line which descended from Sir John Menteith of Rusky and Skipness, younger son of the first of the Stewart Earls of Menteith, and were probably adopted first by his son Sir John, Lord of Arran, Skipness and Knapdale. And it is probably this last-mentioned Sir John who is meant to be represented by the shield on the Mazer. He was one of the Steward's principal vassals, and in or about 1321 acted as a witness to the Steward's charter of certain lands in the Isle of Bute in favour of John, the son of Gilbert, a person who will be noticed anon.¹

The Lord of Arran's father, Sir John Menteith, the son of the Earl, had borne, it is agreed, the *fess* of Stewart with due heraldic differences.² But he had been implicated in 1305 in the taking of Sir William Wallace; and, whether on that account or on some other, his sons had altered their *fess* to a *bend*, and changed the blue in it to black, or had these things done for them. Such, at least, has been the tradition of the heralds, and it is corroborated by the shield in the Mazer. Alexander Nisbet, the herald, says of the family: "for proof that they are *Stuarts* by blood and *Monteiths* by name, they carry the *Fess chequee* of the *Stuart* bendways in a *Field Or*, with a little variation of the Colour Blue to Black for Difference."³ The shield on the Mazer is the earliest existing exemplification of the tinctures.

The arms on the seal of Sir John's grandson of the same name, appended to a precept of sasine of 21st May 1343,⁴ consist of the *bend within a Royal tressure*; and his cousin, Menteith of Rusky and Carse, bore the *bend chequy*, quartered with the arms of Stirling.⁵

The *bend chequy* alone—that is, before the addition of the *honourable augmentation* of the *Royal tressure*, and before the days of quartered arms—appears, so far as we know, only twice; and one of the two known cases is its occurrence on the Mazer which is under the present consideration. The other is its occurrence on the long pointed convex shield of a recumbent effigy in stone, of a knight in armour, unearthed

¹ Bannatyne Charters, 2.

² Macd., *S.A.S.*, Nos. 1860 and 2555, and notes.

³ *Armories*, 1718, p. 25.

⁴ Mar Charters, p. 157, 3, per W. Rae Macdonald, MS.

⁵ The Charter on the marriage of John of Menteith, and Marjory, daughter and heiress of the deceased John de Strevelyng, lord of Cars of Stirling, etc., 25th January 1346-7, *Great Seal Register*, vol. I., No. 125, and App. 2, Nos. 1147 and 1192.

recently from among the ruins on Inchmahome on the Lake of Menteith. Mr James S. Richardson, who is my informant of this, adds that the armour of the knight "is in the style pertaining to the end of the thirteenth century or the commencement of the fourteenth. It is of chain-mail strengthened at the knees with genouillères: over the hauberk is a sleeveless loose surcoat, confined at the waist by an ornamented belt and falling in draped folds below the knees. A narrow fillet is worn on the coif-de-mailles. The shield strap passes over the right shoulder, and the shield is carried on the left arm. The sword is held in the right hand in a vertical position: its quillons are straight and the pommel is lobated; the blade, which is missing, was of metal. The scabbard hangs on the warrior's left side, the strap is ornamented. The effigy has been originally coloured."

4. The shield on the sinister side of that of Menteith may be noticed next, as the remaining shields on the other side are conveniently taken together and last. It bears *Gules, a fess ermine*.

These were the arms of Crawford, lord of Loudoun, and Heritable Sheriff of Ayr. The ermine fess appears on the seal of Sir Reginald in the year 1296 or thereby.¹ But the Mazer, again, contains probably the only contemporary instance of the shield in its tinctures, and unquartered, and without any heraldic difference.

It cannot be said that the date of the extinction of the male line of the house is known, though one Sir Reginald is known to have been executed by the English at Carlisle in February 1307-8, and it is known that the lands and the sheriffdom were in the hands of an heiress in 1317-8.

Till 1317-8, then, the arms of Sir Reginald were the arms of the house—although not longer, seeing that Sir Duncan Campbell, on his marriage with the heiress, Susanna, on or about 4th January 1317-8, retained his paternal *gyronny of eight pieces*, and only altered the tinctures of the *gyrons* to *Gules and ermine*.²

Up till January 1317-8, therefore, the shield of Crawford was still a shield of subsisting arms, the arms of Susanna, who, though a woman, was a powerful vassal of the Steward, the heritable Sheriff of Ayr, and the possessor of a considerable barony. There is no reason in Scottish law why the lady of Loudoun's arms should not have been

¹ Macd., S.A.S., No. 525.

² *Great Seal Register*, vol. I. p. 38; Nisbet, *System*, 1722, vol. I. p. 32; see Macd., S.A.S., No. 358, A.D. 1610. The article in the Scots Peerage on the Earls of Loudoun gives the arms of the last known Sir Reginald as a *fess between three birds* (presumably crows) *in chief and as many fleurs de lis in base*; and cites Macd., S.A.S., No. 526. But Macdonald does not identify the bearer of the arms with Crawford of Loudoun. If he had, the tinctures of the coat of the subsequent Campbells of Loudoun would have been left without their heraldic explanation.

placed along with those of the other vassals, and no rule of etiquette imaginable at the court of King Robert, whose mother was the masterful Countess of Carrick, to prevent the lady of Loudoun herself from, indeed, forming one of the company at his High Steward's festive board and drinking out of the Mazer in her turn!

5. The fifth shield bears *gules, three cinquefoils ermine*.

These, of course, are the arms of the house which afterwards took the territorial surname *de Hamilton*, and are the arms which the ducal head of the house bears for the name to-day.

That house was represented from 1294-5 to a date something short of 1346 by Walter FitzGilbert, the father of David, who styled himself on his seal *David FitzWalter*, but who was more fully styled Sir David FitzWalter FitzGilbert. Sir David was succeeded by his son of the same baptism-name who, in 1378, was the first of the house to style himself by his territorial title alone, David de Hamilton, although Walter had been described among the lairds of Renfrewshire and Lanarkshire as "Wauter fiz Gilbert de Hameldone" as early as the Homage Roll of 1296.

Sir David's seal (as *sigillum David filii Walter*) attached to the Acts of Parliament of 1371 and 1373,¹ which settled the succession of the Crown in favour of John Earl of Carrick, bears a shield with *three cinquefoils*, and is the earliest known *seal* of the house; but the shield on the Mazer belongs to a generation earlier.

Walter, who had signed the Homage Roll in 1296, remained true to his oath to the English King till the position became impossible. He was captain of Bothwell Castle under Edward II. up till the eve of the battle of Bannockburn. But in respect of that decision of 24th June 1314, and of a column of Bruce's victorious army thereafter sent against him, he felt obliged to surrender.² It was then that he joined the party of King Robert.

If, then, the Crawford shield on the Mazer-boss fixes the date of the making of the vessel at no later than January 1317-8, the shield of Walter FitzGilbert, also on it, dates its making as no earlier than the end of the year 1314, or the early part of 1315. And I am not aware if the date of the making of the vessel can be fixed between narrower limits, than that it was somewhere within that period of about 3 years.

6. The sixth and last of the shields bears—*Gules, a chevron ermine between three cinquefoils or*.

The occurrence of this shield on the Mazer presents a problem of its own. The arms which it bears are not those of any of the great houses.

¹ Macd., *S.A.S.*, Nos. 1198 and 1199.

² Barbour, *The Bruce*, *S.T.S.* ed., xiii. ll. 406 and 674. Barbour calls the captain of Bothwell castle "Schir Walter Gilbertstoune."

But, on the other hand, it is the shield of, evidently, a very senior cadet of the house of FitzGilbert; and it is placed next to the shield of the head of that house, as if in parade of its kinship. Its field is the same as that of the chief house. The *chevron*, its mark of cadency, is *ermine*, which is the distinction of the *cinquefoils* of the house, and the second tincture of the paternal coat. The tincture of the *cinquefoils* being in consequence necessarily changed, is changed to *or*, the noblest tincture available. A better coat, heraldically, for a cadet of FitzGilbert could not have been devised. But the question still remains, Who was this cadet? I cannot discover that he is known. His arms appear nowhere except on the Mazer. In default, therefore, of anything better, we must be content with a surmise. But to what seems to be a reasonable surmise the Mazer itself gives us considerable assistance.

8. *The theory that the Mazer was made for John (?) FitzGilbert, or Gilbertson, Keeper of Rothesay Castle.*

Judged by the fact of the appearance of the arms in question on the Mazer, where all the other arms are the arms of chiefs of the kingdom, the FitzGilbert cadet whom the unknown shield represents must have held some exceptional position in—at the least—the domestic world of the Mazer, or occupied an equally exceptional position with regard to the Mazer itself, or both.

The design of the decoration of the Mazer announces that the vessel was constructed to grace a table in the Stewartry, and, if so, then no table other than the board of the High Steward himself in Rothesay Castle; and, even then, it was perhaps only constructed in honour of some occasion when the King himself was to be present in the Steward's castle in special state, surrounded by his other vassals of that territory. But beyond the Steward's shield in its favoured position between the fore-paws of the lion there is nothing of Stewart in the design. On the contrary, the boss, on which any indications of the kind should, in the present case, be looked for, bears allusions to the heraldry and symbolism of another house—those, in fact, of FitzGilbert. They have been noticed already: the *cinquefoil* repeated in the spandrels near the outer edge of the boss, and the *ermine* markings on the wyverns which are the alternating charges there; and, nearer the centre, on the dais round the lion, the spray of the strawberry plant, the flower of which was one of the originals from which the *cinquefoil* of heraldry was taken. The position in which the *cinquefoil* appears on the cover, as the pattern of the silver plate in the centre, from the five points of which also, the five-part division of the pattern of the whole springs, is, if possible, an even more unequivocal announcement of the heraldry of its owner.



THE BANNATYNE OR BUTE MAZER.

PLATE I.

The Boss as it appears now.

(Full Size.)



FITZGILBERT



JOHN FITZGILBERT



CRAWFORD



DOUGLAS



HIGH STEWARD



MENTEITH

THE BANNATYNE OR BUTE MAZER.

PLATE II.

The Heraldry of the Boss in its original Metals and Colours.

In addition to these things, there is the recurrence of the strawberry spray on the disk which contains the shield of the cadet FitzGilbert, which cannot be taken for less than a notice that the spray on the floor of the boss is his, an emblem of FitzGilbert, and nothing else.

If then it is, as it appears to be, the case that the Mazer was made for the table of the High Steward, and was, at the same time, identified heraldically as the property of one of the family of FitzGilbert, the explanation must be, that the FitzGilbert of the Mazer occupied an official position in the Steward's castle which imposed upon him the duty of furnishing the high table with the utensils of the feast—the position, which at that time was probably heritable, of Chamberlain, Captain, or Keeper of the Castle, or Bailie of Rothesay or Bute.¹

The date of the making of the Mazer seems thus to have been somewhere between the end of 1314 or beginning of 1315 and January 1317-8; but, so far as I am aware, no evidence, except, perchance, that of the Mazer itself, exists regarding the Steward's household officers between these dates. Of the fact, however, that one John "son of Gilbert" was Bailie of Bute in or about 1322-5, there is the testimony of a charter, computed to belong to that time, by Walter son of Sir John of Menteith, lord of Arran, to which John the son of Gilbert, bailie of Bute, was a witness.² This "John son of Gilbert," who, in another charter, is styled "John son of Gilbert [who was] the son of Gilbert," was thus Bailie under Walter the High Steward who was lord of Bute from 1309—a date which was some years previous to the earliest possible date of the making of the Mazer, till his death in 1328. He was Bailie too, under Walter's son Robert, who succeeded his father in that year; and he is found transacting with the King's Exchequer, in that capacity, and *in nomine camerarii*, in 1329.³

He was still keeper of the castle when Edward Balliol made his desperate raid into Scotland in 1332; and as the chroniclers—Wyntoun and Fordoun—have occasion to relate something of the fortunes of the young Steward during the period of the Balliol ascendancy, it so happens that their pages throw some light on the tenure by which the Keeper of the Steward's castle held his office.

One of Balliol's measures was to declare the High Steward forfeited. The Steward's lands he awarded to the Strathbolgie Earl of Athol; but the

¹ Not many years ago, in 1897 or 8 (?) the Hereditary Keeper of the Palace of Holyrood House—the Duke of Hamilton, representative, as it happened, of the eldest line of the house of FitzGilbert—maintained against the Crown that the furnishings of that Palace were presumably his private property, and on an arbitration was awarded a portion of them.

² Charter by Walter, son of Sir John of Menteith, circa 1322, *per transumpt* dated in 1472, *Lamont Papers*, p. 9, No. 14; or circa 1325. *Ibid.*, p. 23.

³ *Exchequer Rolls* for 1329, vol. i. pp. 184, 190 *bis*, 196.

control of them he designed to keep for himself. At a Court which he held at Renfrew, he appointed a Sheriff for Bute and Cowal—Sir Alan de Lile, with Thomas of Wooler as his lieutenant; and he had the keys of the Steward's castles of Rothesay and Dunoon delivered up to himself. There is evidence that he treated Rothesay as he treated other strengths throughout the country, and "stuffit" it "with Inglismen."¹ For when the men of Bute at last arose and had caught and slain the sheriff in the open, they were unable to reduce the place, and had to be content with the Keeper's promise to surrender, which he did to the Steward but not to them.

When we come to the chroniclers' story of this stout keeper of the castle, we find that he was none other than John the son of Gilbert, the same as before—*Joannes Gilberti*, as Fordoun calls him, "John Gibson," as Wyntoun puts it, doubtless finding it more convenient for his rhyme to say Gibson than FitzGilbert or even Gilbertson.

Wyntoun's story is that when—

. . . the schiref thar wes slayne
Johun Gibsone in handis wes tane [taken prisoner]
That heycht [engaged] to gif up the casteill
He helde his conmande [covenant, trust] wondyr weil.

Fordoun's account differs little; he says that *Joannes Gilberti* was captured in a conflict before he gave his undertaking; but as for the rest of the tale he proceeds that it was when the captive was brought to the Steward that he "immediately delivered up the castle and became his vassal": (*et sibi fecit hominium*).²

Wyntoun says nothing about homage; but he relates that Gibson's custody of the castle was renewed. For when the Steward who had just regained possession of the Castle of Dunoon learned how things had fallen out in Bute he came with speed to Rothesay, and made the people whom he found in charge of it its keepers. He

. . . thar in made
Keparis that it in zemsal [keeping] hade.

In short, John Gibson again retained his fee—namely, his heritable office of Keeper of Rothesay Castle.

In annotating Wyntoun's account here, the late very learned Mr F. J. Amours suggested that it was difficult to suppose that there were not two men of the name of John Gibson then at Rothesay, one of whom was for Balliol, and the other for the Steward. "This John Gibson," he says, "who now surrenders the Castle of Rothesay can hardly be the same who helped the Stewart to escape from Bute."³

¹ Wyntoun, vol. vi.

² Fordoun and Goodall, vol. II. p. 316.

³ Wyntoun (*Scot. Text Soc.*), vol. I. p. 114; and see vol. vi., Bk. 8, line 4129.

But the Balliol incursion put Gibson, the Keeper of the Steward's castle, into a predicament in which he had powerful inducements to change sides, and even more powerful inducements to appear to change if he preserved his old allegiance in his heart; in other words, to play two parts, as many others did. If so, there is no need to have two of the same name then and there; and, indeed, there is scarcely room for more than one. John Gibson, as we have seen, was Keeper of the castle before the Balliol incursion. When Balliol demanded and received the castle keys, he got them presumably from the person who had the legal custody of them,¹ the Keeper, Gibson; and when we find a John Gibson in charge of the castle immediately afterwards we cannot but take it for granted that he was the same man, that he had done the necessary homage to his new king, and received his keys back again.

Wyntoun tells how that during the time that the keys were being given up to Balliol the young Steward was in Rothesay hiding. Mr Amours thought that he must have escaped before the Balliol party obtained possession; but the need of cunning to get him away, which is part of Wyntoun's story, infers that the enemy was already in possession. The story is that John Gibson was aware of the Steward's presence, but that the said John—whom he does not distinguish from any other John of the same name, but speaks of as if he were the only one—was a "true man"; that he had a confederate, Willok Heriot, who happened to be dwelling in the barony; and that these two arranged for the Steward's escape to the safety of the friendly Castle of Dumbarton. They

"Tretit and wrocht sa wittely
That in an evinning in a bait
Fra Rothissay they held thar gait
Till Innerkip."

on the opposite coast of Renfrewshire, where they landed the Steward and his charters too. Horses were waiting, and the Steward rode through the night, accompanied only by his body-servant (his "chalmer child") and two men with the charters, till they came to a point on the south bank of the Clyde opposite to the Rock. There they were met by a little coble, and taken across to Dumbarton Castle, where the Steward was received with welcome and honour by the captain of the stronghold, Sir Malcolm Fleming, "the worthy," and John Gibson's notable service to the house of Stewart was crowned with success.

It was from Dumbarton Castle that the Steward emerged when his forces were assembled for the recovery of his territories. Wyntoun

¹ Bellenden, Bk. 15, cap. 6, narrates that the keys were produced by the newly appointed sheriff, which is difficult to imagine.

narrates that the Steward's army and fleet had hardly appeared at Dunoon before that fortress opened its gates to him; and that, when the Steward learned of the siege of his Castle of Rothesay by his adherents the men of Bute, and of John's promise of surrender, he crossed in haste to receive it. The haste may have been to save Gibson from the fate of the sheriff at the hands of men who could not know that, though he was the liege man of the Balliol, he was secretly for the Steward, and had been the planner of the young chief's all-essential escape from Rothesay to Dumbarton—a thing that could not just then be talked about. Wyntoun's judgement at any rate was favourable to Gibson, that he had kept his trust (his *connande*) well. One version of the Chronicle has it:

He helde his *connande* wondyr weil.

There seems to be no evidence nor likelihood that there was more than one John Gibson who had a hand in affairs at Rothesay at that time. But, on the other hand, his success in retaining his position, firstly on the advent of the Balliol, and again on the return of the Steward, has only one explanation which is natural, namely, that he held his office in fee and heritage, and was secure in it according to the law, whatsoever king might reign, so long as he had the address to offer that king his allegiance and the king found it convenient to accept it.

The presence, then, of the arms of FitzGilbert, Gilbertson or Gibson, on the Mazer which was made for the honour of the High Steward, has the explanation, that at the date of the bowl they were the arms of the officer who was responsible for the furnishing of the Steward's table,—though the splendour of the vessel with which he graced it is to be attributed to a loyalty and enthusiasm which transcended what was ordinarily required of such a castellan as his feudal duty.

The Mazer with its heraldry of the King's "beast," and the shields of armorial bearings around it, would be sufficiently accounted for if it were taken only to symbolise the ideal convivial company in the castle of the Steward, but it may quite as easily be taken for a celebration of some famous company that once actually met.

The time of the making of the Mazer, which we have found to be somewhere soon after the end of 1314, belonged to a period of great triumphs for the Steward, and of great promise for Rothesay Castle; the victory at Bannockburn, in which the Steward had held a high command, had opened a new era, and following on it was the marriage of the Steward with the Princess Marjory, the heiress to the throne as she was then, and the home-coming of the bride to Rothesay. If

there was any occasion more likely than another to inspire the castellan of Rothesay for the furnishing forth of a memorable cup, Royal and noble, for the Steward's high table, it was then that it arrived. There is no record of anything that was done there then; but it may be taken for certain that the King himself was present. He is found there on occasions both before and afterwards.

In or about the year before his victory, King Robert was present at Rothesay on an occasion which may have been important and may not. For all that is known of it, and the way that anything at all is known of it is that, during his presence there he was gracious enough to be a witness to a grant by his host, the High Steward, of a parcel of land in the island to one of his vassals. The scribe of the charter, according to form, engrossed in it the witnesses' names, and the charter still exists.

The witnesses were no less than—"Our lord, Sir Robert (Domino nostro Domino Roberto), the illustrious King of Scots, Sir Edward his brother, lord of Galloway, Sir Thomas of Ranulph (Domino Thoma Arnulphi), Earl of Moray, Sir William of Lindesay, Chamberlain of Scotland, James, lord of Douglas, James of Cuningham, James Stewart, Gillies of Eastwoode *et multis aliis*."¹

Though the charter is earlier than the Mazer, it is of interest to us at present to note that the lands conveyed by it consisted of the threepenny-land of Kilmacolmoe,² afterwards the property of the Bannatyne, and that the grantee was "Gilbert the son of Gilbert" and father of the John of whom so much has just been said. And, at the same time, that neither were the lands large enough, nor the grantee, for anything that is known of him, important enough to be the explanation of the

¹ Bannatyne Charters, No. 1. This charter is undated; but the designations of some of the witnesses enable us to assign it a date which is, at least, approximate. The want of the title "Sir," or the designation of a knight, at the name of James of Douglas arrests attention at once, as the date of his knighthood is recorded by Barbour to have been that of the Battle of Bannockburn or the day before it. The absence of that one title might not be very conclusive, by itself, that the charter had been granted before the battle; but in the present case it is not alone in that testimony, for the list contains another name with a designation which properly belongs to the earlier period. Edward Bruce, the King's brother, who is styled in an unimpeachable charter of 24th October 1313, Earl of Carrick, is styled here, as he was in a charter of 1st March 1312-3—eight months earlier—merely Lord of Galloway. The charter to Gilbert must, therefore, be taken to be earlier than the above-mentioned charter of October 1313 (*Scots Peerage*, vol. ii. pp. 435-6). On the other hand, Gilbert's grant cannot be as early as 12th April 1312, as Thomas Ranulph is styled in it Earl of Moray, which he was not at that date (*Scots Peerage*, vol. vi. p. 292).

A charter of the Earldom of Carrick in favour of Edward Bruce appears in the first Roll of Charters under the Great Seal of Robert I., which the late Mr Maitland Thomson dated as of the period 1315-21. The conclusion must be, that Edward's title and dignity was originally conferred on him by personal investiture, the ceremony of "belting," and that his charter followed or, at least, was enrolled afterwards.

² The feudal return was the service of one archer in the common army of the King of Scots, and certain attendances at the courts of the barony of Bute.

gathering of personages who were present, who must therefore be considered, so far as the charter was concerned, to have been only the Steward's guests who happened to be at the castle at the time.

The next actual record, so far as I have found, of the presence of great personages at the castle is contained in a further charter by the Steward, this time in the days of the Mazer, in favour of a Gilbertson—to John himself: *Johanni filio Gilberti filii Gilberti*. John, who was thus a son of the former grantee, received then, about 1320, a larger grant than his father had had, but in presence of a smaller company. He received the fivepennyland of Attygar, the fivepennyland of Ardrossigille, and the pennyland of Cuarfaybeg called Maas Cuarfay.¹ The witnesses were “the venerable father in Christ Sir Alan, by the grace of God bishop of the Sudreys (The Isles), Sir William de Lindsay, rector of the church of Ayr, Sirs (Dominis) John of Menteith, James, lord of Douglas, and James of Conyngham, Knights, Walter son of Gilbert, Robert Symple *et aliiis*.”²

In our present inquiry, which regards the Mazer and is interested in the fortunes which it has experienced, such charters are important, mainly on account of their lists of the personages who were present as witnesses when the grants were made, and for the reason that these personages, other than those of them who were resident on the island, must, in the early days with which we are concerned, have been the guests for the time of the High Steward, members of the house-party at Rothesay Castle, who sat at the table which was graced by the Mazer!

On the occasion of each of the Steward's charters just mentioned the Douglas was present. As for King Robert himself, the only question, if we could but answer it, is how frequently in his constant passages through his dominions must he have been there too? For it was the castle of his son-in-law and great counsellor, the Steward, and the home of his grandson. The records show that he was often near,—at Glasgow, Ruglen, Dumbarton, Cardross, Arran, Ayr, and so on. The 28th July 1324 is the only date on which, so far as I know, he is actually recorded to have been at the castle, during the time of the Mazer. On the 10th and 13th of June he had been at Glasgow; and on the 1st of August he was at Seone again. His visit to Rothesay is revealed by his having granted a charter there.³

¹ For the service of an archer in the common army of the King of Scots, and certain attendances at the court of the barony of Bute.

² The charter belongs to a date somewhere between 1319 and the middle of February 1321; for, as late as 1319, Sir William de Lindsay would have been designated Chamberlain of Scotland; and Alan the bishop died on 15th February 1321, if it was not the February of the year before (Dowden, *Bishops of Scotland*, pp. 280-1).

³ Buchanan House Charters, cited in *Itinerary of King Robert the Bruce*, by the Marquis of Bute, 1899 (*Scottish Antiquary*, vol. xiv. p. 19).

It might seem rather courageous to conclude almost entirely from the evidence which the Mazer itself supplies, namely, the heraldry which it bears—the circle of shields of arms round the lion couchant—that it is a vessel which was actually passed from hand to hand at the table of the High Steward, and drunk out of, as it passed, by the Bruce himself and his chief captains and great vassals in the Stewardry, whether lords or ladies. But for what else was it or could it have been made?

The date at which the service of the Mazer at Rothesay Castle came to an end is, perhaps, unknown. Robert the High Steward succeeded to the throne in February 1370-1. John Gilbertson was dead before 4th December of the same 1371,¹ but how long before, and whether he was alive at the date of the accession, is perhaps not now ascertainable. Nor does it appear to be known whether the male line of his branch of the family died out with him; or when exactly the office which he had held left it, as, before a date in the next century, it is seen to have done. There is some evidence, however, that the male line of the family which John Gilbertson had represented died out early. The Bannatynes of Kames were in possession of the FitzGilbert lands in the next century—lands brought to them, according to their tradition, by an heiress. The Mazer came into their possession very probably at the same time and in the same way. It certainly was in their possession, and had been repaired with a new band, and an exceptional number of silver straps, as a thing of a great sentiment, in or about 1522. It was natural that the Bannatyne of the day should inscribe his own name on it, along with his family mullets, but, as has been already observed, he placed along with them a cinquefoil, presumably for the FitzGilberts. If the Bannatyne tradition is accepted, it seems probable that it was when the Mazer passed into the hands of the heiress that it passed into private life.

APPENDIX.

I.

ON THE PROVENANCE OF THE MAZER. Note by Mr LIONEL A. CRICHTON, of 22 Old Bond Street, London, 22nd January 1930.

... the mounts of the bowl bear no hall or maker's marks of any description, nor should I expect to find any. They belong to a period anterior to the use of marks in Scotland, and I believe them to be of Scottish make.

¹ *Great Seal Register*, vol. i. p. 302.

Your criticism of the lettering and its crudity rather strengthens my opinion of its Scottish origin than otherwise, because had these mounts been made in England, for instance, the lettering would have conformed more nearly to the type and workmanship appearing on known examples of early sixteenth-century mazers.

As to the print, this is undoubtedly of the fourteenth century; and as to its place of manufacture that can only be conjectured, but I see no reason why it should not have been made north of the Tweed, as the design has strong Celtic influence. We know that the art of the silversmith was practised in Scotland at a very early period.

The bowl is, as you state, of maple.

II.

NOTE ON THE BOSS OF THE MAZER.

By Mr WILLIAM BROOK, F.S.A.Scot., 22nd June 1931.

Firstly, the boss was not specially made for its present position, but, at one time, either by itself or attached to some other piece, served a different purpose.

I consider there is ground for believing that at least two workmen of separate nationalities are responsible for the Mazer as we see it to-day, but if the boss had been made specially, then, in casting the plate, proper recesses would have been left for the enamels. There have been no such recesses, but there has been within the positions now occupied by the heraldic arms, some other form of ornament which it has been necessary to remove.

My own feeling is that the boss originated in the East—in what country I am not sufficiently expert to say—but it found its way to Scotland, possibly being brought by some soldier, merchant, or traveller. Its value was so highly prized, that when a mazer was required for the kingly purpose you have suggested, it was deemed proper to place it in the centre, and a Scottish silversmith was employed to render it suitable for the purpose.

To-day every workman is a specialist only in one branch of his craft, but in olden times a workman had to do everything, such as engraving, chasing, soldering, etc., and in some subjects he naturally was more expert than others.

It was he who was responsible for the removal of the first ornament, and the substitution of the heraldic shields, and his method, though ingenious, is clumsily executed.

In each case a hole about the size of a shilling has been cut out of the ground plate by means of a small flat chisel, and a thinner circle

of silver substituted behind, thus forming a small box. The enamelled shield was then dropped into this receptacle, and probably secured in position by means of some form of cement, and, to permit the escape of superfluous material, a small hole has been drilled in the centre of the back of the box.

It is impossible to reconcile the crude workmanship of the alteration with the masterly hands responsible for evolving the *Lion Couchant* and the plate on which he rests.

III.

ZOOLOGICAL NOTE ON THE BONE CARVING OF THE MAZER.

By Professor JAMES RITCHIE, D.Sc., Aberdeen.

There are two striking features about the ornamented bone lid of the Mazer from the zoologist's point of view. The first is its great size, nine inches in diameter, for it has evidently been carved from a single bone; the second is the very fine close texture of the bone itself, which has enabled a good polish to be obtained. The size precludes any animal other than a whale, and it is well known that the bones of whales, especially vertebral centra, the intervertebral discs, and ribs, have been made use of, in Scotland at any rate, from early historic times. The majority of these bones, however, exhibit in some part a porous texture quite different from that of the present example.

The fine "grain" of this bone shows no concentric arrangement, but runs in straight lines from one side of the disc to the opposite side, the only trace of unevenness of texture occurring at one outer margin, where the bone is very slightly porous.

It is clear that this is not one of the bones of whales generally made use of, and comparison with many different whale remains in the Royal Scottish Museum showed that it had undoubtedly been cut from the ramus of the lower jaw of a sperm whale, the porous portion being near the upper margin of the jaw bone. The under surface of the lid is practically the outer surface of the natural bone, whereas the carving on the upper surface of the lid has been incised upon the inner surface of the jaw bone, which has been rubbed down, though not to a very great extent, to a suitable thinness. The slight curvature of the lid, which might be mistaken for artificial warping, is the actual curvature of the sperm jaw, at a place roughly half-way between the end of the tooth row and the area of articulation with the skull.

The question arises as to how the jaw of a sperm whale, a native of tropical and sub-tropical seas, could be carved in Scotland. But although the sperm whale is a southern species, isolated bull sperms

occur not infrequently in the Atlantic Ocean, off the coasts of Scotland. Between 1903 and 1913, sixty-six male sperm whales were captured by whalers working from Scottish ports, but many were taken far from land. Although the Basque whale fishery was at its height in the twelfth and thirteenth centuries, and in the fourteenth the whalers are said even to have reached as far as the Newfoundland banks, the whales they sought were not sperms; and, in any case, there is no indication that at that period either English or Scottish boats took part in whale fishing. The probability, therefore, is that the Mazer lid was manufactured from the jaw of a sperm whale accidentally stranded on a Scottish or English coast.

IV.

BOTANICAL NOTE ON THE PLANT REPRESENTED IN THE CARVING ON THE MAZER LID. By Professor WILLIAM WRIGHT SMITH, M.A., King's Botanist in Scotland.

I have examined the figures on the lid with much interest. Three of these are evidently designed from various parts of a plant or plants. At first I thought that all three were closely connected, and might be intended to represent various parts of the same plant. But the central metal design (somewhat like a series of opening fruits in the *photograph*) is an illustration of one of the cinquefoils. I could not have guessed this, but I understand that, from other evidence based on the record in heraldry, you are clear that it is undoubtedly *cinquefoil*. This disposes of one of the items, and also makes it certain that the three figures are not referable to the same plant—for No. 2 (the flower) is not that of cinquefoil, nor does No. 3 (the leaf design) fit in with that plant.

No. 2 (the flower) is girt with a ring which cannot be part of the flower—unless in the artist's imagination—for there is nothing in the botanical field quite like that. But inside the ring, the design comes nearest to the "flower" of a composite, such as marigold, daisy, or sunflower. It has no resemblance to that of cinquefoil or of strawberry.

No. 3 (the leaf design) fits in best with the leaf of the *hellebore*, or some other member of the buttercup family. The number of segments is usually three or four, which runs contrary to any suggestion of cinquefoil. Just possible, but very unlikely, would be leaves of clover, or similar trefoil, but the edges of the leaflets are cut too evenly for these, though the nature of the material may have prevented the artist from indulging in serrations to the edges.

Without knowledge of the art of the period, I cannot go further than the above suggestions, and the likeliest models are—

No. 1. Cinquefoil.

No. 2. Flower of the daisy type.

No. 3. Leaves of hellebore, or close ally.

V.

(EXTRACT from "A Genealogical Account of the Principal Families in Ayrshire, more particularly in Cunninghame." By GEORGE ROBERTSON. 1823.—Vol. i. pp. 60-1.) See above, p. 217, note 3.

"There remains in the possession of Lord Bannatyne an antique bowl, bound with silver, which appears to have been the property of Ninian [Bannachtyne of Kames], there being inscribed in large letters on the silver binding round its mouth—'Ninian Bannachtyne, Lard of the Camys, son of Umqule Robert Bannachtyne, Lard of the Camys,' which, as the precept on his service bears—Robert his father to have died in 1522—must be now more than 300 years old. What was its original destination, though probably a baptismal cup, is not now known; but in the bottom is placed the figure of a lion in brass, sitting erect; and round it, in the form of an escutcheon, are placed six coats of arms, neatly blazoned in a kind of enamel, the two lower, being the arms of the family, on a plain shield without supporters. On the principle of an escutcheon, representing the alliances of the family, it is natural to suppose, that of the four upper, the two on the right represent the paternal arms of Ninian's mother and grandmother and the two on the left, the arms of their mothers; under which view it would appear that Ninian was the son of Robert, by his second wife, whose father had borne the name of Douglas, and her mother that of Crawford; and that Robert had been the son of a former Ninian, by a lady whose father carried the name of Stuart, and mother that of Menteith. He was succeeded by his son."

MONDAY, 9th February 1931.

CHARLES E. WHITELOW, I.A., Vice-President,
in the Chair.

A Ballot having been taken, the following were elected Fellows:—

ARCHIBALD CAMERON, M.A., University Lecturer, Cowan House, George Square, Edinburgh.

GEORGE CRICHTON, Banker, 6 Duncan Street, Edinburgh.

CYRIL MOZEEN-HUDSON, Welford House, 8 Victoria Avenue, Harrogate, Yorks.

CHARLES HENRY TAYLOR, Collegehill House, Roslin, Midlothian.

The following Donations to the Museum were intimated and thanks voted to the Donors:—

(1) By W. DOUGLAS SIMPSON, D.Litt., F.S.A.Scot.

Copper Button, gilt, with a view of the hill of Benachie, Aberdeenshire, and the date 1807 below in the centre, and BENACHIE CLUB/GARIOCH FRIENDLY SOCIETY round the edge.

(2) By GEORGE BEVERIDGE of Vallay.

Small fragment of a plate of a small-toothed Comb of Bone, showing traces of rust from an iron rivet. Found in the Old Cattlefold, Vallay, North Uist.

(3) By A. D. LACAILLE, F.S.A.Scot.

Arrow-head of white Flint, with a broad stem, from Paimpol (Côtes du Nord), France.

(4, 5) By Sir REGINALD MACLEOD OF MACLEOD, K.C.B., F.S.A.Scot.

Two Beakers (fig. 1). The first, of dark brown ware, has a long upright brim. The vessel measures $7\frac{1}{2}$ inches in height, $6\frac{1}{2}$ inches in diameter across the mouth, $5\frac{1}{2}$ inches at the neck, $5\frac{3}{4}$ inches at bulge, and $3\frac{1}{2}$ inches across the base, the wall being $\frac{1}{4}$ inch thick at the rim. The entire wall, to within $1\frac{3}{4}$ inch of the base, is decorated by rows of transverse lozenges, formed by a toothed stamp, with three incised lines at the top and three similar divisional lines at the neck, encircling the vessel. On the outside of the lip are short incised oblique lines. When

found the vessel was broken, but nearly all the shards were recovered, and the urn has been restored.

The second vessel was much broken, and many of the pieces are wanting. The ware is reddish brown. As restored, the vessel varies from $7\frac{1}{4}$ to 8 inches in height. It measures $5\frac{1}{2}$ inches in diameter at the mouth, $5\frac{1}{2}$ inches at the neck, $5\frac{1}{2}$ inches at the bulge, and $3\frac{1}{4}$ inches across the base. The whole wall has been ornamented, being divided into four zones by groups of three, six and five incised transverse lines with a



Fig. 1. Beakers from a Cairn at Kraiknish, Skye.

single marginal line at the lip. The upper and lower zones are decorated with closely set chevrons, and the two central zones by lattice designs, all impressed with a toothed stamp. Found in a cairn at Kraiknish, Loch Eynort, Skye. (See *Man*, vol. xxix. p. 165.)

(6) By Mrs FRANCES J. SCOTT, 6 Midmar Avenue, Edinburgh.

Socketed Bronze Axe, the socket being rectangular with rounded corners, and the sides chamfered at the corners. It measures 3 inches in length, $1\frac{1}{8}$ inch across the cutting edge, and the socket $1\frac{1}{8}$ inch by $1\frac{1}{8}$ inch externally. The socket is encircled by a slight moulding $\frac{1}{2}$ inch below the mouth, and immediately below this are the remains of a loop. It is covered with a thick brownish-green patina. Found on Craighead Farm, Newport, Fife.

(7) By ALEXANDER Y. ALLISON, North Gyle.

Food-vessel, light brown in colour, measuring $4\frac{1}{2}$ inches in height, $5\frac{1}{2}$ inches in diameter across the mouth, $5\frac{5}{8}$ inches at the shoulder, and $2\frac{1}{8}$ inches across the base. The top of the rim and the upper part of the wall of the vessel are decorated in false relief by impressions of a flat-pointed tool, and the lower part by incised vertical zigzags of four parts. Found in a short cist at North Gyle, Corstorphine, Edinburgh. (See *Proceedings*, lxiii. p. 368.)

(8) By Miss CONSTANCE WARRAND, Balnabeen, Canon Bridge, Ross-shire, through Maj.-General EGERTON, C.B., F.S.A.Scot.

Two White Metal Buttons of the Culloden Volunteers, bearing a Golden Eagle, the motto SPERNIT HUMUM and the initials C.V.

(9) By A. RUSSELL LILLIE, Reay House, Inverness, and W. N. Ross, Park House, Edderton.

Fragment of Food-vessel of dark brown clay (fig. 2). It has had an



Fig. 2. Fragment of Food-vessel from Edderton.

almost vertical upper part, with the shoulder rather wider than the mouth, which has been $6\frac{1}{4}$ inches in diameter. Under the rim, which is decorated with oblique impressions, is a narrow hollow moulding bearing loop impressions. The space between this and the shoulder bears a transverse zigzag line with four straight lines above and two similar lines and a row of short vertical lines below. On the re-

maining part of lower tapering wall of the vessel is another transverse zigzag and three straight lines, a short vertical line occurring on each of the upper angles of the zigzag line. All the impressions have been made by a twisted cord. Found beside a short cist in a stone circle on the edge of Cartomie Wood, Edderton, Ross, the place being known as King's Cairns.

This cist was excavated by Dr Joass about 1866, and described in the *Proceedings*, vol. vii. p. 269, but the report is a very fragmentary one, and the illustration of the piece of the urn found in it unsatisfactory.

It was announced that the following objects had been purchased for the Museum:—

Merchant's Signet-ring of Silver, with flat hoop and bevelled edges, the shoulders swelling into a flattened oval bezel. Engraved on the bezel is a shield with a chevron and initials J.N. (Old English characters), and above a conventional flag ornament believed to be the badge of wool-staplers. Found in Perth in 1873. (See *Proceedings*, vol. lx. p. 149.)

Small Luckenbooth Brooch of Gold, in the form of a crowned heart. The inscription FEAR GOD IN HEART, and the initials A.H. are engraved on the back.

Barbed and stemmed Arrow-head of brown Flint, another, calcined, wanting the point, from Strathardle, Perthshire.

Barbed and stemmed Arrow-head of brown Flint, and Knife of translucent white Flint, from Findhorn, Morayshire.

Leaf-shaped Arrow-head of rose-coloured Flint, from Sands of Forvie, Aberdeenshire.

Three leaf-shaped Arrow-heads of light grey Flint; lop-sided Arrow-head of dark brown Flint of fine quality, with very delicate ripple flaking; Spear-head or Knife, of dark grey Flint, wanting part of the base; another of clear grey Flint; three Borers of light grey and red Flint; Knife of grey Flint, finely flaked over its rounded back; four Knives of yellow Flint; sub-triangular Implement of grey Flint, imperfect; twenty-seven Scrapers of grey and yellow Flint; two Worked Flints; and a Stone Axe, measuring $2\frac{1}{2}$ inches by $1\frac{5}{8}$ inch by $\frac{3}{4}$ inch. Found on Carsie, Blairgowrie, Perthshire.

Leaf-shaped Arrow-head of yellow Flint, imperfect, measuring $\frac{7}{8}$ inch by $\frac{1}{2}$ inch; four barbed and stemmed Arrow-heads, of grey and yellow Flint, measuring $\frac{3}{2}$ inch by $\frac{3}{4}$ inch, $\frac{1}{2}$ inch by $\frac{1}{2}$ inch, $\frac{1}{2}$ inch by $\frac{1}{2}$ inch, imperfect, $1\frac{1}{8}$ inch by 1 inch, imperfect; triangular Arrow-head of dark grey Flint; and a stone Whorl, measuring $1\frac{5}{8}$ inch by $\frac{1}{2}$ inch. From the Culbin Sands.

Barbed and stemmed Arrow-head of yellow Flint, from Milton Brodie, Alves, Morayshire.

Pigmy Flint, Tardenoisian, triangle, of grey colour, measuring $1\frac{1}{8}$ inch by $\frac{7}{16}$ inch; eighteen Scrapers of grey, yellow and red Flint; Perforated Stone, measuring $2\frac{5}{8}$ inches by $1\frac{1}{2}$ inch by $1\frac{3}{4}$ inch by $\frac{7}{16}$ inch, with hole countersunk from both sides; Lead Whorl measuring $\frac{3}{4}$ inch by $\frac{9}{16}$ inch; two stone Whorls, the first ornamented with incised concentric lines and a zigzag pattern, measuring 1 inch by $\frac{3}{8}$ inch and $1\frac{1}{2}$ inch by $\frac{7}{16}$ inch; Bronze Pin with an imperfect projecting ring head, the ring corrugated across on the front, measuring $1\frac{1}{8}$ inch in length; shield-shaped Hinge of gilded Bronze, measuring $1\frac{1}{2}$ inch by $1\frac{3}{8}$ inch, and a bronze Toggle, measuring $\frac{5}{16}$ inch in length. From Tents Muir, Fife.

The following Donations to the Library were intimated and thanks voted to the Donors:—

(1) By ROBERT MURDOCH LAWRENCE, F.S.A.Scot., the Author.
John Rannie, Aberdeen. Aberdeen, 1930.

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National Museum. The Danish Collection: Prehistoric Period. Guide for Visitors. Copenhagen, 1908.

(3) By W. G. BLAIR MURDOCH, 33 Dundas Street, the Author.
An Introduction to the Study of Scottish Architecture.

I. From the Earliest Times to the Reformation.

II. From the Seventeenth Century to the Present Day, from *The Calcutta Review*, November and December 1929, and September 1930.

(4) By W. DOUGLAS SIMPSON, D.LITT., F.S.A.Scot.
The Romance of The Highlands. By Alexander Campbell, F.S.A.Scot. Aberdeen, 1927.

(5) By JOHN MACKENZIE, F.S.A.Scot.
Archæological Notes on Ancient Sculpturings on Rocks in Kumaon, India. By J. H. Rivett-Carnac, Esquire. Calcutta, 1883.

(6) By H.M. GOVERNMENT.
The Register of the Privy Council of Scotland. Third Series. Vol. xii., A.D. 1686. Edinburgh, 1930.

(7) By The Hon. HEW HAMILTON DALRYMPLE, F.S.A.Scot.
Memoires of My Lord Drumlangrig's and his brother Lord William's Travells abroad. From a MS. Book in the Charter Room, Drumlanrig Castle. Privately printed. Edinburgh, 1931.

It was announced that the following books had been purchased for the Library:—

Schumacher - Festschrift, zum 70 Geburtstag Karl Schumachers, 14 Oktober 1930. Herausgegeben von der Direktion des Römisch-Germanischen Zentral-Museums in Mainz. Mainz, 1930.

The Tragedy of Kirk o' Field. By Major-General R. H. Mahon, C.B., C.S.I. Cambridge, 1930.

A BRONZE AGE CEMETERY NEAR COWDENBEATH, FIFE. 261

The Roman Frontier from Wallsend to Rudechester Burn. (Overprint from *A History of Northumberland*, vol. xiii.) Newcastle-upon-Tyne, 1930.

Roman Malton and District. Report No. 2—The Defences. Report No. 3—The Roman Pottery at Throlam, Holme-on-Spalding Moor, East Yorkshire. By Philip Corder, M.A.

Acta Archaeologica. Vol. i., Fasc. 1 and 2. København, 1930.

A History of the Vikings. By T. D. Kendrick, M.A. London, 1930.

Early Man in North-East Yorkshire. By Frank Elgee. Gloucester, 1930.

Numantia. Band II. Die Stadt Numantia. Von Adolf Schulten; and Band II. Karten und Pläne. München, 1931.

The following Communications were read:—

I.

A BRONZE AGE CEMETERY NEAR COWDENBEATH, FIFE.

By A. D. LACAILLE, F.S.A.Scot.

On 11th October 1928 notices appeared in the Press to the effect that some pieces of ancient pottery had been found on the Cowdenbeath Golf Course. From the articles published it seemed that the relics were in the keeping of Mr Robert Holman, a newspaper correspondent at Cowdenbeath. A few days later, a second report stated that a number of shards, complete vessels, and many fragments of incinerated human bones had been unearthed at the same place.

Having taken an early opportunity to go to Cowdenbeath, I examined the pottery and bones in Mr Holman's office. Inspection there showed that no less than five vessels were represented in the discovery, which, I learned, goes back in the first instance to September 1927.

Mr Holman stated that he first heard of pottery fragments being found about that time when workmen were engaged in making a bunker at Green No. 17, situated at the highest point of the golf course. Later the exact spot was found to be about 501 feet above Ordnance Datum, 200 feet north-west of an old quarry, 500 feet north of the London and North Eastern Railway (Inverkeithing and Perth Section), and about 80 feet north of the 500-foot Bench Mark cut on a stone where the foundations of a wall meet the drystone dyke separating the golf course from a plantation of trees above the quarry. The site is in the parish of Ballingry about 200 yards north of the march with the parish of Beath; from it a wide view is commanded to north, east and west.

Although many years have passed since farming was engaged in here, agricultural operations had so long been carried on formerly at the place, that it cannot be said definitely now if there survive the remnants of a mound or cairn where the pottery was accidentally brought to light. While it might be remarkable that the examination of the ground did not reveal more than a few stones in the soil, the presence of the nearby dyke of land-gathered stones suggests the possibility that a cairn had existed.

The shards found in the autumn of 1927 were thrown aside by the workmen as being of no moment, but many of the pieces were recovered a year later by my informant. On further digging, on 9th October 1928, the greenkeeper and his assistant discovered two more sepulchral deposits, making five in all. These consisted of cremated human bones, originally placed in urns set vertically on their flat bases, the tops being not more than a foot under grass.

Little can be said now about the finds made in 1927, but as regards those of October 1928 precise details are fortunately available. The vessels are all kiln-fired and of varying shades of brownish red, the clay containing small fragments of pounded stone added to give a harder consistency to the finished urns. A description of these is given here—under in the order of their discovery.

Some time after my visit to Fife, Mr Holman sent on a box containing pottery and bone fragments picked up by searchers attracted by the subsequent publicity in the newspapers. Local interest in the discovery being thus aroused, many pieces collected by the curious were secured.

Looking over the potsherds obtained as a result of the general search in the vicinity of the seventeenth green and quarry below it, I noticed that there were some fragments bearing distinctive ornamentation and representing one more urn. The cemetery had thus comprised no less than six vessels, and it is possible, of course, that the burials here were even more numerous. Digging or search might well disclose additional evidence that this was so.

Urn No. 1 is now represented by a few dark mellow brick-red fragments, the clay containing a fairly large proportion of pounded basalt. While scanty in number, the pieces are sufficiently large to show, not only the original contours of the vessel of which they formed part, but also the nature of the scheme of decoration. From what has been put together, a reasonable conjecture can be arrived at as to the height and diameter at the base; these were probably 10 inches and $4\frac{1}{2}$ inches respectively. Internally, this upper portion forms the arc of a circle 8 inches in diameter.

Below the plain flat rim which declines slightly inwards as well as

projects outwards to a pronounced lip, the wall averages $\frac{3}{8}$ inch in thickness. Under the external edge of the rim is a hollow moulding, in the lower part of which is a horizontal line made by the impression of a twisted cord into the clay before firing. From here the wall bulges outwards for $1\frac{1}{2}$ inch, and then curves inwards for a little way to the point where the upper portion of the urn is finished off in a well-rounded exterior beading. Above this beading is a horizontal line similar to that below the rim. These parallel lines confine a zone of decoration $2\frac{1}{2}$ inches wide, comprising double rows of lines made by a twisted cord, set in pairs and arranged in an effective chevron pattern (fig. 1).



Fig. 1. Cinerary Urn from Cowdenbeath
(Urn No. 1).

Urn No. 2 is very similar with a low exterior beading $2\frac{1}{2}$ inches below the top. The clay, however, is of coarser body and contains many comparatively large pieces of pounded basalt; it is of a lighter shade than No. 1. The wall of the upper part is vertical, but, inside, the rim is formed by a rounded but uneven internal moulding. From what remains of the urn below the exterior beading appearing on one or two of the few fragments, it may be seen that the lower wall of the vessel originally decreased gradually downward in diameter to the base. Consequently, this urn may be placed in the category of the bucket-shaped type of sepulchral vessel. It has probably measured $9\frac{1}{2}$ inches in height, $7\frac{1}{4}$ inches and $4\frac{1}{2}$ inches across the mouth and base respectively.



Fig. 2. Cinerary Urn from Cowdenbeath
(Urn No. 2).

Immediately under the edge is a deeply incised line running round the rim; this line has a counterpart in another one less deeply cut above the exterior beading. These parallel lines enclose a decorated space containing a design made up of parts of conventional geometrical ornamentation, but here disposed in an interesting and unusual way. This simple and effective scheme will be seen from the restoration based on the pattern borne on the shards. The main motif is a series of large incised saltires,

placed near the lower enclosing horizontal cut, and between two oblique lines radiating upwards in opposite directions.¹ In the interspace between each opposed set of lines is another line placed approximately in the middle and set at a less acute angle. It does not seem to have been the artist's intention to make any of the cuts meet except in the case of the cruciform figures (fig. 2).

Urn No. 3 now consists of a small portion of the lower wall, but the base is complete and measures $4\frac{1}{2}$ inches across. The clay, of a light



Fig. 3. Cinerary Urn from Cowdenbeath (Urn No. 4).

reddish-brown brick shade, is of poor quality but highly fired throughout. Innumerable grass radicles have caused the pottery to come apart, and so much is missing that it is only possible to conjecture a proportionate estimate of the original height to be 10 inches with a diameter at mouth of $7\frac{1}{2}$ inches. A fragment indicates that the urn was possessed of a slight exterior beading, but there is nothing to show if any pattern decorated the vessel, which was probably of the shape of a bucket.

Urn No. 4, although not entire when discovered, has been reconstructed so far as possible. The clay, of somewhat inferior quality, dull brown in colour, contains much coarse material and is not uniformly fired. When taken from the soil it was found to be soaked through and

¹ From the appearance of the fragment shown in fig. 2, the large X in association with part of the oblique line on the right of it was erroneously taken by a newspaper to be a piece of a Roman vessel bearing an ill-made numeral XI. As a relic of the Roman occupation, the discovery was first reported in the Press.

reduced almost to the consistency of dough. So many radicles of grass issued from the numerous cracks and the clay itself that the vessel collapsed in drying. Little now survives of the top, but in its reconstructed condition it is apparent that it represents the largest urn of the group, and is of the bucket-shaped type. Originally it has measured about 11 inches in height and $8\frac{1}{2}$ inches in diameter over the top. On one fragment is a portion of a low exterior beading with a fraction of an incised horizontal line near it. The decorated zone was probably about 3 inches wide, and the ornamentation was a geometrical pattern of cut-out cross-hatched lines, but in one place only does the pottery recovered indicate that this was so. Fragments of the thick rim, projecting slightly outwards and rounded off externally and inside as well, have been collected, and from these the drawing of the section has been made to accompany the illustration (fig. 3). The walls are almost vertical.

Inside this vessel were the cremated bones of two individuals—those of an adult and of a young person. With these were fragments of soft yellowish clay, which, no doubt, formed part of a packing or cover serving to seal the osseous contents. The surmise that clay formed a means of closing the urn is supported by the examination of No. 5.

Urn No. 5 is bucket-shaped like No. 4, and at some time had also suffered injury in the upper portion, probably by contact with a plough-share. When unearthed, long cracks extended from the top of the urn to its base, but after drying, restoration of the vessel was effected and the few missing portions of rim were reconstructed. The illustration shows the urn as now completed (fig. 4).

A clay layer, still intact when the vessel was first handled, reached to within $1\frac{1}{2}$ inch of the top. This packing, 2 inches deep, was tightly pressed against a mass of incinerated bones beneath it.¹ Near the top



Fig. 4. Cinerary Urn from Cowdenbeath
(Urn No. 5).

¹ Only two Scottish Bronze Age burial deposits, presenting this manner of sealing cinerary urns with clay, have been placed on record. Three of the urns containing calcined human bones found in 1906 at Stevenston, Ayrshire, were covered with a plugging of soft clay (Mann, *Proc. Soc. Ant. Scot.*, vol. xl.; Urn No. 2, pp. 382-3; Urn No. 8, pp. 389-90; Urn No. 15, p. 391). Mr John Smith mentions a sepulchral vessel removed from a prehistoric grave in the same county as far

of the osseous deposit was a fragment of the parietal or temporal bone to which adhered a crust of green-coloured cuprous oxide, indicating that there had probably been gathered up with the human remains some small object of copper or bronze.¹ A stone $1\frac{1}{2}$ inch long of the native basalt was found embedded in the middle of the clay plugging.

The urn containing this remarkable and untouched deposit is of a pleasing shade of reddish brown and is $8\frac{1}{2}$ inches in height, the walls averaging $\frac{1}{2}$ inch in thickness. It has, in its upper part, a decorated zone $2\frac{1}{2}$ inches wide, enclosed at top and base by a line running round the vessel. The pattern is somewhat complicated and interesting as showing the diversity in ornamentation which may be produced by a simple combination of straight lines. In the present example, the decoration consists of a succession of treble lines arranged in a zigzag design, the lower extremity of each set so disposed that, to a certain extent, it overlaps its neighbour on either side along the lower enclosing line.

Urn No. 6 has been reconstructed from a few fragments of the top, body and base. From the collection of shards received after my visit to Cowdenbeath, these were identified as belonging to a distinct sepulchral vessel. Because of the nature of the pieces this complete reconstruction of the urn could be made, and it materially adds to the information to be derived from the Cowdenbeath deposit.

The pottery is much closer and harder in body than any of the other vessels from the site. The outer layers are of a terra-cotta shade. In the composition of the potter's clay, pounded granules of white quartz were used and, upon examination, the breaks revealed that the outer crust, upon which the firing had acted most, covered an inner layer bluish black in colour. Some of the fragments are seen to be very much weathered, and the hard grains of quartz stand out prominently from the softer material. This feature points to the fact that these pieces had probably been unearthed at some distant date and were thrown away in the neighbourhood of the quarry. Throughout the thickness of the urn the same homogeneity is apparent, thus testifying to the quality of the potter's clay. In this respect *Urn No. 6* may be regarded as an important specimen of the Bronze Age potter's craft.

The urn, in its reconstructed condition, is the shape of a flower-pot and is $9\frac{1}{4}$ inches high. Across the mouth it measures $7\frac{1}{4}$ inches while the diameter of the base is 4 inches. The thickness of the wall increases

back as 1837; its contents were sealed with flat stones as well as clay (*Prehistoric Man in Ayrshire*, p. 149).

¹ This is confirmed by Sir Arthur Keith to whom the bones were submitted for examination and report—*infra*, p. 268.

uniformly from $\frac{3}{4}$ inch at the top to $\frac{1}{8}$ inch where it merges into the base. So perfect is the circularity of the base, $\frac{3}{4}$ inch in thickness, that one might readily be led to believe that the wheel had been employed in the production of this interesting urn.

For $1\frac{3}{4}$ inch the upper part bulges outward to a low exterior beading below which the contour changes and the diameter decreases evenly downward. The narrow rim, slightly depressed inwards, measures, as has been stated, $\frac{3}{4}$ inch in thickness. Under the brim is a horizontal line formed by impressing a thin cord into the clay before firing. A similar impression has been practised above the beading, and enclosed within the two horizontal lines is a pattern of three lightly impressed parallel lines made by a twisted cord. The lines are arranged chevron-wise, the extremities being placed $2\frac{3}{4}$ inches apart at top and bottom alternately (fig. 5).

Disposition of the Urns.—An overground survey was made where the cinerary urns were found, and the place occupied by each was noted. (What might have been the situation of the sixth urn can never be told for the fragments of this vessel were picked up in the disused quarry.)

The shallow rectangular excavation made by the workmen measured about 20 feet by 12 feet, and was little more than a removal of the thick turf.

Urns 1, 2, 3 and 5 were placed in a line extending for 13 feet 7 inches and orientated $12\frac{1}{2}^{\circ}$ west of true north, urns 1 and 2 being found together at what may be called the northern end of the row. The fifth vessel was unearthed at the southern extremity, and the third was laid bare at a spot approximately between the isolated No. 5 and the group including 1 and 2. Urn 4 was embedded in the ground at a point 4 feet 3 inches to the west of No. 5, that is to say, in a line at right angles to the axis of the main row of the four vessels. Illustration (fig. 6) shows the position of the cemetery in Cowdenbeath Golf Course and the situation of the urns.



Fig. 5. Cinerary Urn from Cowdenbeath
(Urn No. 6).

The urns were placed in the ground with the mouth upwards and no stones were used to pack them in the soil.

Near the place occupied by Urn No. 4, I picked up a small fragment of secondarily worked olive-coloured Arran pitchstone. This furnishes an interesting indication of commerce or travel in the late Bronze Age, for, although pitchstone implements have already been noted from the eastern counties of Scotland, this is the first recorded example from a locality north of Forth.¹

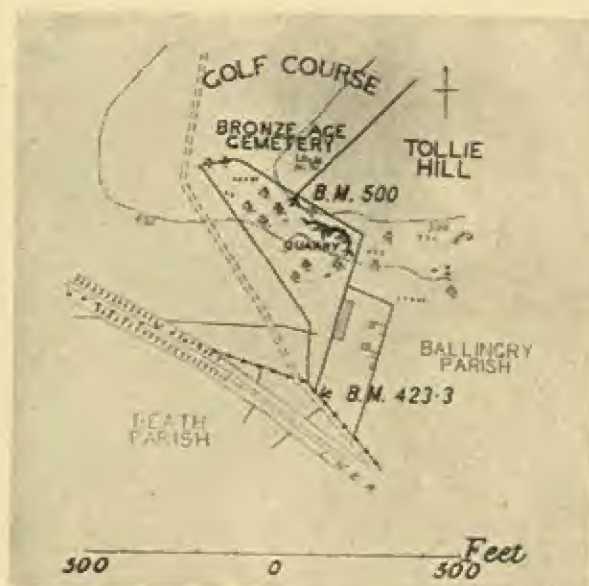


Fig. 6. Map of Cowdenbeath Bronze Age Cemetery Site.

Report on the Bones.—Sir Arthur Keith, F.R.S., Hon. F.S.A.Scot., of the Royal College of Surgeons of England, who has been kind enough to examine the incinerated remains sent him for examination, says: "In only two of these cremations are the fragments big enough to permit inference. (4) In this case the evidence is not clear. All are human ashes: but the cheek-bone (malar) in the separate envelope is that of a young small person, while the other parts are of a large-limbed person—probably man. The earth containing a few fragments of burnt bone represents the scrapings gathered up after the cremation. (5) Parts of the skull and limb bones can be identified. All seem parts of one individual—a woman. The tibia is flattened or platycnemic, as was usually the case in Bronze-Agers. Her chin and lower jaw

¹ Callander, *Bulletin de la Société Préhistorique Française*, vol. xxvii. p. 218.

were small. The earth with No. 5 has human ashes in it, but more one cannot say. I noticed the green crust and suppose some brass or copper thing had come in contact with the fragment of bone. I saw no sign of rheumatoid changes on any of the bones.

"The fragments gathered after you left are also from a human cremation."

II.

FURTHER EXCAVATIONS OF CAIRNS AT POLTALLOCH, ARGYLL.

By J. HEWAT CRAW, SECRETARY.

During April 1930 a further examination of ancient monuments on the Poltalloch Estates was made by Sir Ian Malcolm, K.C.M.G., and our Society, the work being carried out under my supervision.

I. NORTH CAIRN, NETHER LARGIE.

The first of the cairns to be excavated was the northmost of three large cairns situated near Nether Largie. These form part of an alignment of early burial places which apparently marks the course of an ancient road for some $4\frac{1}{2}$ miles along the level floor of the Kilmartin valley. The other cairns and cists forming this alignment had already been examined, and had yielded results of much importance. One contained a segmented chamber of Neolithic type as well as cists of the Bronze Age;¹ four contained cists having grooved slabs,² the feature being unknown in Scotland save in the Poltalloch neighbourhood; and one contained a cist having axe-heads, and the representation of a boat cut on the slabs,³ a feature almost unique in the British Isles. It thus seemed not improbable that the unexcavated cairn at Nether Largie might yield results of importance to archaeology.

The position of the cairn is $\frac{1}{4}$ mile north-north-east of Nether Largie school. The ground is almost level, falling slightly to the east towards the Kilmartin Burn, which is some 200 yards distant. The cairn (fig. 1) was almost circular, measuring 71 feet from north to south, and 67 feet from east to west; the height was 8 feet 9 inches. It had not the appearance of having been previously disturbed, save that some stones had been removed from the west side, probably for walls or road-making. At its edges the cairn had been augmented by the addition of stones removed from the fields during farm work. The stones of the cairn

¹ *Proc. Soc. Ant. Scot.*, vol. vi. p. 341 (1866); vol. lxiv. p. 233 (1929-30).

² *Ibid.*, vol. viii. p. 378 (1869-70); vol. lxiii. p. 154 (1928-29); vol. lxiv. pp. 127-146 (1929-30).

³ *Ibid.*, vol. viii. p. 378 (1869-70); *Journ. Arch. Assoc.*, vol. xxxvi. p. 146 (1880).

were chiefly water-worn, such as are plentifully found on the adjacent fields; few were larger than one man could easily handle.

Work was begun on 7th April with five men, and was completed on 16th April, forty days of one man having been occupied in the work.



Fig. 1. North Cairn, Nether Largie. Looking north-east to Kilmartin.

The stones, amounting to almost 300 cart-loads, were entirely removed from the area of the cairn, and were built into a wide protecting wall round the site.

In this cairn (fig. 2) there was no surrounding ring of boulders, but a circular area measuring 46 feet north and south, and 44 feet east and west, was enclosed by a mound 8 feet across, and about 2 feet in height externally, and 1 foot internally. This mound was most clearly marked at the north side, and was discontinued for about a third of the circumference at the south-east side, where its position was merely indicated by an abrupt outward slope.

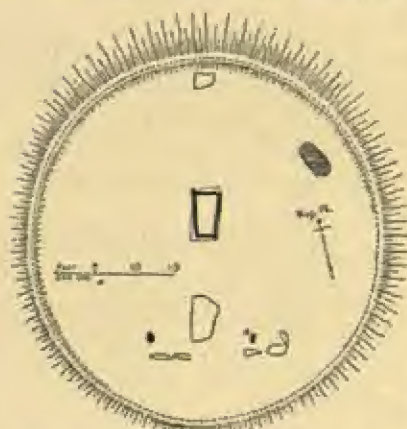


Fig. 2. North Cairn, Nether Largie.

The cairn covered only one cist, which lay immediately to the north of the centre, the axis pointing almost due north. It measured internally 5 feet 2 inches in length by 2 feet 5 inches in width at the north end, and 2 feet at the south end, and was 1 foot 10 inches deep. It was formed of four massive slabs of schist, the end slabs being placed between the side slabs. It was unpaved. Over the cover were laid eighteen large slabs,

distinct in character from the rounded stones of the cairn; the two largest of these, measuring 4 feet by 2 feet 1 inch and 3 feet 8 inches by 1 foot 9 inches, were laid along either edge of the cover, which they overlapped; the others were arranged along the edges and partly over the top. The cover, which lay some 6 inches below the surface, is a massive slab of schist measuring 6 feet 7 inches by 3 feet 5 inches by 9 inches; on the under surface (figs. 3 and 4) are carved the shallow representations of ten large flat axe-heads variously arranged



Fig. 3. Under surface of Cist-cover, with Axe-heads and Cup-marks.

and measuring from 5 to 11 inches in length, and four smaller figures, $3\frac{1}{2}$ to $4\frac{1}{2}$ inches in length, which also probably represent axe-heads. One at least of the larger axe-heads is shown with a handle which, at a distance of 7 inches from the head, turns at right angles and ends in a cup-mark. Several show lateral projections at the cutting edge. There are also forty-one cup-marks on the slab, from 1 to 3 inches in diameter and $\frac{1}{2}$ inch in depth; several of these are placed on the axe-heads. On the inner face of the north end slab of the cist (fig. 5) are two large axe-heads measuring 16 by $9\frac{1}{4}$ inches, and 9 by $5\frac{3}{4}$ inches; the cutting edges, which have lateral projections, point upwards.

The cist was partially filled with soil which, on being riddled, was found to contain only a few fragments of charcoal, a little ochre, and a human



Fig. 4. Rubbing of Cist-cover. Scale, 1 inch = 1 foot.

molar tooth which lay at the west end and fell to pieces when it was lifted. The burial had evidently been inhumed.

At a distance of 7 feet 6 inches to the south of the cist lay a large slab about a foot below the surface of the ground. It measured 5 feet 6 inches by 3 feet 3 inches and was 10 inches thick, its axis being in alignment with that of the cist. This was probably the cover of a grave made without the use of slabs; the outline, however, could not be traced in the gravel beneath, and excavation failed to find any relics or the presence of charcoal or discoloured soil resulting from an interment. Over this slab was a covering of large stones; these were not flat slabs as in the case of the central cist, but were similar in character to, though



Fig. 5. Axe-heads on North End-slab.

much larger in size than, the stones of which the cairn was composed. This covering measured 15 feet east and west by 7 feet; its axis was thus at right angles to that of the slab, from the north end of which it fell short by about 1 foot 6 inches. Some of the large boulders along the south side of this covering seemed to have been placed in alignment as shown on the plan. On opposite sides of the southern end of the slab, and at a distance from it of about 5 feet, were two upright stones set in the ground. That to the east, at A (fig. 2), was a pointed slab (fig. 6), 3 feet in length by 1 foot 2 inches across the base; on its western face were two circles, one above the other, 7 inches in diameter and $1\frac{1}{2}$ inch apart.

To the north-east of the central cist, and at a distance of 4 feet from the low enclosing mound, was an oval grave measuring 5 feet by 2 feet 6 inches, having its axis parallel to the enclosing mound. It was 2 feet 9 inches in depth, and was filled with dark soil, in which were found fragments of charcoal and the molar tooth of an ox.

Immediately within the encircling mound, at the north side of the cairn and in alignment with the axis of the central cist, lay a flat

quadrangular slab, 2 feet 6 inches by 2 feet 3 inches; it had been placed on the original surface of the ground in a horizontal position, but bore no marking on either surface; neither was there any appearance of the ground beneath having been disturbed.

The finding of the carved slabs in this cairn is of unusual interest. The only other example of axe-head markings in Scotland is in a cist at Ri Cruin cairn,¹ less than a mile to the south-south-west of Nether Largie, and for other examples we have to go to Brittany. From the presence of such unusual features as these carvings and the grooved



Fig. 6. Slab with Incised Circles, *in situ*.

side-slabs above mentioned, we may conclude that the alignment of cairns in the Kilmartin valley belongs to one period early in the Bronze Age.² That burials at this time, however, were not confined to the floor of the valley is shown by the presence of a cist having grooved slabs on the top of a prominent eminence at the Lady's Seat to the north of Poltalloch.

Close to the opposite side of the road which runs past the cairn at Nether Largie, and at a distance of 40 yards west of the central cist, is an exposed rock surface (fig. 7), smoothed by glacial action. It slopes

¹ *Proc. Soc. Ant. Scot.*, vol. viii. p. 378 (1869-70). Mr L. M'L. Mann draws my attention to the fact that a slab, with axe-markings from a barrow in Dorset is preserved in the British Museum. The slab has been described by Mr Callander in our *Proceedings*. See vol. xxxviii. p. 494 (1903-4).

² The segmented chamber in the south cairn at Nether Largie has of course an earlier origin.

gently to the north-east. Within an area measuring 28 by 21 inches are 13 cup-markings from $1\frac{1}{2}$ to 3 inches in diameter and less than $\frac{1}{4}$ inch in depth. One of these is placed on a natural vein or fissure in the rock, which may have been artificially widened for 4 or 5 inches where it leaves the cup.

II. CARNASSARIE CAIRN.

Rather over a mile to the north of Kilmartin village stands the fine sixteenth-century castle of Carnassarie; from the site can be had a

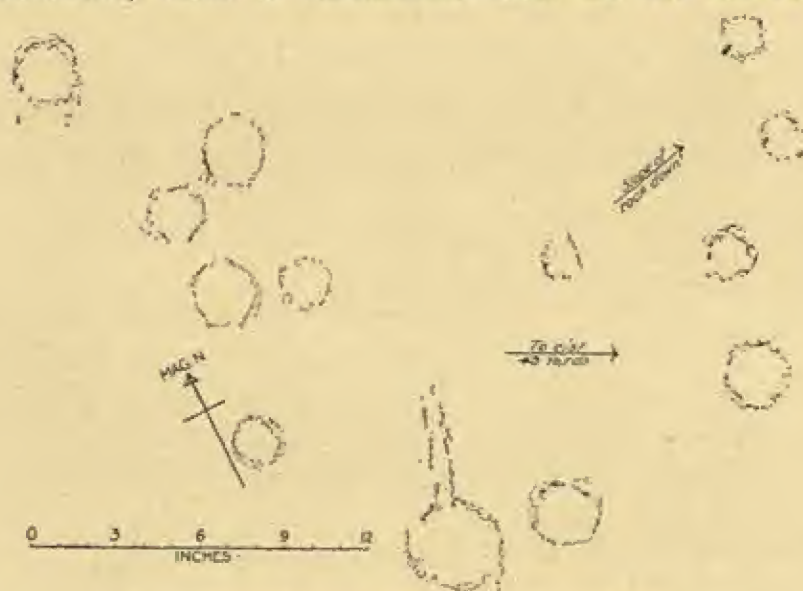


Fig. 7. Cup-markings on Rock Surface, Nether Largie.

commanding view down the Kilmartin valley towards Crinan Moss and the hills of Knapdale. Some 500 yards west of the ruin and at a higher elevation are two standing stones,¹ the position of which is shown on the Ordnance Survey map. In the summer of 1929 when visiting these stones, I went farther to examine an eminence shown on the map as Dun Macsamhainn, the name inviting investigation.² On this hill I found a Bronze Age cairn much damaged, and on the way to it from the standing stones, I found another cairn on a knoll 140 yards south of the stones, above which it stood about 50 feet.

¹ The south stone measures 8 feet 10 inches by 4 feet 1 inch by 1 foot 5 inches, and the north stone 8 feet 7 inches by 4 feet 10 inches by 1 foot 8 inches. They are 7 feet 9 inches apart.

² A later examination of the earlier edition of the Ordnance Survey map showed this site marked "Cairn."

This cairn is almost circular, measuring 93 feet east and west by 90 feet. Its height was 8 feet 3 inches. It had been much disturbed, and a large quantity of stones had been removed from it, probably for



Fig. 8. Carnassarie Cairn, from the west. The figures show the edges of the Cairn.

walls; the ruins of one of these, running close past the cairn, can be seen in the foreground in fig. 8. The stones were larger and more angular than those in the cairn at Nether Largie.

Work was begun here on 16th April with four men and was completed on 28th April, the cairn taking 37 days' work to excavate. Owing to its large area and the size of many of the stones, the material was not removed beyond the edge of the cairn, but was thrown back as the work progressed. A belt about 10 feet in width round the edge was not fully excavated, trenches 15 feet wide being cleared through it at the cardinal points. The remainder was excavated to the subsoil, which was of a red colour and easy to distinguish.



Fig. 9. Carnassarie Cairn.

There was no surrounding ring of boulders, but most of the area covered by the cairn had been paved with large boulders 15 to 18 inches in diameter, set close together. Although the central part was carefully examined, no cist was found there, nor had any cist been previously removed, as the paving had not been disturbed at this part.

Part of a ring of large boulders was traced (fig. 9), having its centre about 16 feet to the east of the centre of the cairn. This ring extended

3 feet beyond the centre of the cairn, and if complete would measure some 40 feet in diameter, reaching to within 10 feet of the edge of the cairn at its east side. The part of the ring that was traceable measured 40 feet in length and consisted of twenty boulders, the largest of which was 3 feet in length.¹

Only one cist was found. It lay within the ring of boulders, close to its south-west side, and some 14 feet south-south-east of the centre of the cairn. It measured 3 feet 11 inches by 2 feet 1 inch, and was 1 foot



Fig. 10. Food-vessel from Carnassarie Cairn.

6 inches deep, the bottom being paved with 265 small water-worn stones. The north end-slab was placed between the side-slabs, which abutted against the slab at the south end. The west end-slab had been split and forced inwards by the superincumbent weight. The cover, which lay 1 foot beneath the surface, measured 6 feet 1 inch by 4 feet 6 inches by 8 inches. The axis of the cist pointed north-west (29° west of magnetic north). The cist was entirely filled with soil, and contained a food-vessel in good condition (fig. 10) and some charcoal and ochre. More charcoal

¹ In the Glebe cairn at Kilmartin, Canon Greenwell found a double ring of boulders which lay entirely to the south-west of a cist at the centre of the cairn (*Proc. Soc. Ant. Scot.*, vol. vi. p. 339 (1886)). At the centre of these rings was a cist with a bowl-shaped food-vessel and a jet necklace. The urn is in the Poltalloch collection in the National Museum, the necklace was destroyed in a fire at Poltalloch in 1893.

and a small piece of flint lay outside the cist; another fragment of flint was picked up in the north part of the cairn.

The urn lay on its side a little to the north of the middle of the cist. It is yellowish brown in colour, and measures $6\frac{1}{2}$ inches in height, but is slightly warped, being $\frac{1}{2}$ inch lower at one side. The diameter at the mouth is 7 inches, and at the base $2\frac{3}{4}$ inches. It is encircled by two mouldings, the upper being $1\frac{1}{4}$ inches below the rim and 2 inches above the lower moulding. The decoration consists of six encircling bands of zigzag ornament in false relief, formed by making a series of impressions with a flat, pointed tool with the point downwards, and below that another series with the point upwards. These bands are separated by

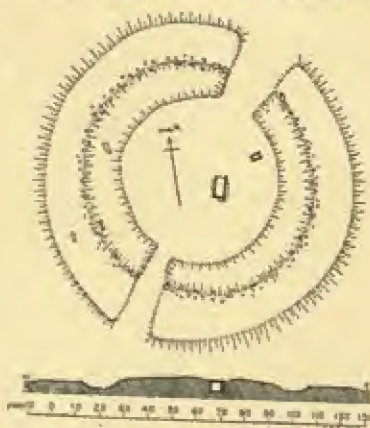


Fig. 11. Bell Cairn, Ballymeanoch.

horizontal lines (from three to six in number) of dotted impressions. Between the mouldings the dotted lines, instead of being horizontal, are arranged to form a series of chevrons pointing to the left. Immediately above the base a single series of impressions of the flat, pointed tool encircle the urn, and the lip is decorated with the false relief design. The same combination of these two forms of ornament was used on the urn found in the cist which adjoined that containing a jet necklace near Poltalloch in 1928, and on a fragment found at Dunadd in 1929.

III. BELL-CAIRN AT BALLYMEANOCH.

Canon Greenwell has described the examination of a bell-cairn lying 140 yards south of the pierced stone in the setting of standing stones at Ballymeanoch.¹ As no plan accompanied the description, and as the features still remain intact, the plan shown in fig. 11 has been prepared to supply the want.

¹ *Proc. Soc. Ant. Scot.*, vol. vi. p. 348 (1866).

The cairn is formed of earth and stones, and is much denuded (fig. 12). It is circular, measuring 72 feet in diameter and rather over 4 feet in height above the bottom of the trench which surrounds it. This trench is from 7 to 12 feet wide, and has on its outer slope a flat-topped mound 24 to 28 feet broad, 2 feet high internally, and about 1 foot externally. At the north-north-east and south-south-west sides a broad roadway crosses the trench, and numerous stones project from the inner face of the surrounding mound. The overall measurements are 138 feet.

Two cists are exposed. The larger lies about 8 feet east of the centre. It is unusually large. The north end-slab is gone, but the east side-slab measures no less than $9\frac{1}{2}$ feet in length, the west slab being 3 inches less. The width is 3 feet 1 inch at the south end and 2 feet 11 inches at



Fig. 12. Bell Cairn, Ballymeanoch, from the south. Standing Stones of Ballymeanoch beyond.

the north end. The axis points to the north (17° east of magnetic north). Ten feet to the north-north-east lies another and much smaller cist, the axis pointing east-north-east (78° east of magnetic north). The length is 3 feet 11 inches, and the width 1 foot 9 inches at the east end and 1 foot 7 inches at the west end. The cover has been removed.

The large cist had been rifled before being examined in 1864, the smaller one had also been opened, but parts of a beaker were found in it and human teeth.

A number of cists at Poltalloch are said to have been opened many years before the excavations of Canon Greenwell and Dean Mapleton by a factor called Gow. After his death the relics in his possession were removed from the district by his sister. Their subsequent fate is not known.

A striking feature of the monuments in the Poltalloch district is the great size of slabs used as standing stones, and as the covers and side-slabs of cists. At many places in the neighbourhood can be seen

outcrops of rock where such slabs could be got with little labour. One of the most striking of these is shown in fig. 13 at Torbhlaren Hill near Kilmichael Glassary. By the process of denudation the slabs stand out isolated from the face of rock, merely requiring to be broken off. Others



Fig. 13. Probable Quarry for Standing Stones, Torbhlaren Hill, Kilmichael Glassary.

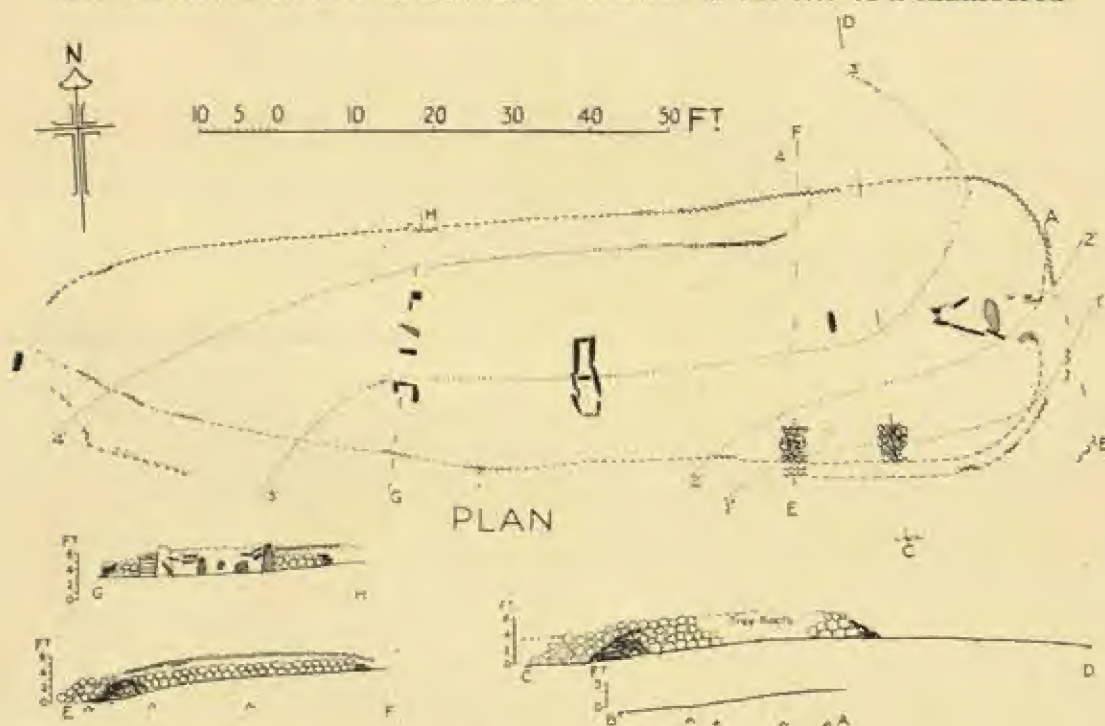
that have fallen away lie ready for carrying off, on the steep slope below.

To Sir Ian Malcolm our thanks are due for carrying out the work, and for placing the urn and the inscribed slab in the Poltalloch Collection in our Museum. I should also like to record my indebtedness to Mr J. G. Mathieson, Factor at Poltalloch, for much help given in arranging for the excavations, and to Mr J. S. Richardson for the use of the photograph reproduced in fig. 12.

III.

THE CHAMBERED LONG CAIRN AT KINDROCHAT, NEAR COMRIE,
PERTHSHIRE. BY PROFESSOR V. GORDON CHILDE, B.LITT.,
F.S.A. SCOT.

The irregular enclosure termed on the Ordnance Map the Old Burying Ground on the farm of Kindrochat is marked as the site of a chambered



Sections at A-B, C-D, E-F, and G-H.

Fig. 1. Plan of, and Sections across, the Long Cairn at Kindrochat.

cairn by the two long cists explored by us in 1929. The cairn itself, however, had been largely levelled in the past (presumably to provide stones for dyke building), exposing the pillar-stones of the cists. Thereafter large trees had grown on the site, seriously disturbing structures with their roots. Moreover, for at least seventy years cart-loads of small stones, collected from adjoining fields, had been dumped on the site, and a recent soil had accumulated on the south slope of the

knoll to a depth of 2 or more feet, partly burying the enclosing dyke on that side. These circumstances complicated the task of determining the plan and structure of the former cairn, which was the primary object of the 1930 excavations.

The first operation was to drive a trench, termed Trench 1, across the cairn area on either side of the great tree stump that grew immediately behind Cist I. Below the superficial turf we found a layer of black mould mixed with small feld stanes, easily distinguishable from the much larger and more tightly packed boulders forming the under-



Fig. 2. View along Trench 1, looking south.

lying cairn material. Of this only two or three courses survived. At two points in Trench 1 we encountered, not rounded boulders, but large flat slabs forming a sort of rough wall or kerb. On the south the outer edge of this kerb, which was some 4 feet wide, lay just over 18 feet from the axis of Cist I. To the north it was narrow, its edge lying only 17 feet from the same axis. Between the two lines of kerbing, save in the region disturbed by the tree roots, the base of the original cairn was clearly discernible. It consisted of big water-worn stones, 18 inches or more in diameter, closely packed together and embedded in the red gravelly soil of the original land surface (fig. 2).

Beyond the northern kerbing no boulders reminiscent of true cairn material were encountered, though some 15 feet from the kerb a dump of small feld stanes, 2 feet deep, began and extended up to the dyke bounding the area on the north. To the south, on the contrary, large

stones like those constituting the cairn proper extended for a distance of 12 feet beyond the southern kerb and right under the boundary dyke on this side. These stones were more loosely disposed than those between the kerbs, lay at a considerably lower level, and were covered by a fine yellowish soil quite different from the red gravelly deposit found below and north of the cairn proper. This apparent anomaly was to be explained by a consideration of the conformation of the original land surface on which the cairn was built. At the southern end of our trench, 12 feet outside the kerb, this surface was only reached 45 foot *below* our datum. Just inside the southern kerb it had risen to 1·80 foot above datum, and under the northern kerb it stood at 3·30 feet. Soon after this point the land began to dip slowly northward, till after 30 feet it stood at 1·92 foot. Trench 1 accordingly revealed that the cairn had stood on the southern slope of a low undulation in the original soil, which rose at the rate of about 1 in 11·1 from the south to the northern edge of the cairn and dipped away thence at the gentler rate of 1 in 21·3 (see section CD).

We assumed that the walls of flat slabs cut by Trench 1 represented the boundaries of the original cairn. To test this assumption trenches were cut at right angles to the first, westward along the assumed line of the kerb. The northern cross trench disclosed a well-marked line of flat slabs extending for a distance of 22 feet (fig. 3). At the latter point a large tree had grown right over the line of the kerb and disturbed it hopelessly; not even after the tree stump had been blasted away could the line of the wall be recovered here. It was, however, picked up farther west by an extension of Trench 5, and again at the western end of the cairn. A trench dug northward along the axis of Cist II., across the site of the tree stump, failed to reveal any structure on the north corresponding to Cist II. on the south, nor was cairn material found here north of the assumed line of the kerb. The northern cross



Fig. 3. The Northern Kerb, looking east.

trench accordingly demonstrated that the kerb of flat slabs, cut at this end of Trench 1, did in fact constitute a continuous and reasonably straight boundary wall for the cairn. No cairn material was discoverable north of it.

On the south the position proved far less simple. The trench dug at a level of about 3.50 westward just outside the assumed line of the southern kerb continued to reveal large stones lying in and under



Fig. 4. South Wall exposed in Trench 2 (EF).

fine yellow soil between 3.30 and 3.80 above datum at a distance of four or more feet from the assumed line. From the south trench we accordingly dug deeper offsets northwards, numbered 2 to 5. In each, after removing some big stones, we again reached a sort of wall of flat slabs laid horizontally or set criss-cross (fig. 4). When plotted, the segments of walling thus disclosed were found to form a fairly good line for a distance of nearly 70 feet. The same line was traced, though in a more disturbed condition, almost up to the large upright that projected above the turf on the west. Here, however, the cairn had suffered badly from pillaging, and even its core was disturbed. Sporadic groups of large stones lay on the red virgin soil as much as 8 feet or 9 feet south of the

line of the kerb, but these did not form a continuous compact mass with a definite edge (fig. 5). The south trench accordingly confirmed our view of the kerbing disclosed in Trench 1, but raised certain problems to which we will return in a moment.

A further fact revealed was a rise of the original land surface to the west. In Trench 2 the red soil at the base of the southern kerb lay only 10 feet above our datum. In Trench 5, 50 feet to the west, it had risen to 2.80, and 30 feet farther on it was cut by the original south trench itself at 3.20, while in the next 20 feet it had risen above 4.00.

Throughout the south trench we were confronted by two problems—the asymmetry about the major axis of the cairn between the north

and south walls and the extension of cairn stones beyond the last-named. In Trench 2 the south wall or kerb was 3 feet 6 inches high. At its base on the red soil at 10 foot above datum its edge was 21 feet from the axis of Cist I. On the contrary, the edge of the north kerb was only 15 feet distant, but its base lay already about 4.00 feet. The southern kerb was, however, over 6 feet wide. A point near its inner edge, some 3.50 feet above datum and so nearly on a level with the base of the northern kerb, would correspond symmetrically with the latter. In other words, the apparent asymmetry of the cairn about its



Fig. 5. Disturbed Southern Kerb near Western End of Cairn.

major axis was a natural corollary of the unevenness of the original land surface. The builders of the cairn had made up for the low level of the ground on the south by raising the height of the kerb on this side, and, owing to the method of building with an inward batter, the southern kerb must be much wider than the northern one (see section EF). An examination of the east end of the cairn confirmed this interpretation.

As to the extension of cairn material beyond the line of the kerb on the south but not on the north two explanations are possible: the large stones found here six and more feet south of the kerb's line may simply have rolled down from the top. More probably, however, it had been found necessary to support the body of the cairn by additional packing on the lower southern side to secure a stable slope up to the hypothetical ridge along the main axis.

After completing the south trench we turned our attention to the east end of the cairn. Last year we had found and plotted a wall of large flat slabs running across the mouth of Cist I. The line of this wall was now followed up on the north. Here a good line of kerbing came to light, curving round to the west till it came exactly into line with the north kerb, as determined west of Trench 1 (fig. 6). Its most northerly point lay 17 feet 9 inches north of the axis of Cist I., almost in a line with the pillar-stone marked D. West of this point the kerb ran out



Fig. 6. Kerb curving round at East End of Cairn (looking west).

in an almost straight line, but eastwards it curved to the south very definitely. It was thus established that the cairn was not horned.

None the less, on the east as on the south the slope of the virgin soil had produced complications: the gentle dip from west to east here accentuated the north to south slope detected in Trenches 1 and 5. Even north of the axis kerb slabs were found rather outside the line expected if the wall were to curve in to meet that across Cist I., and further south such slabs extended 4 feet or so east of the expected line. Following up the latter we found them curving round westward indeed as was expected, but so as to come into line, not with the upper edge of the south wall, as determined in Trenches 1 and 2, but rather with its base. However, the slabs forming this line of kerbing all lay between 1.25 and 1.75 above datum or nearly 2 feet lower than the wall top determined in Trenches 1 and 2. They should therefore be compared with the base and lower courses of the wall in those trenches

and not with its upper edge. That might be expected to run 2 to 4 feet farther in, where it would join up beautifully with the wall across Cist I. Wet weather on the last day prevented attempts to prove this by actual sections, but the evidence obtained on this sector was sufficient to confirm the unhorned character of the cairn. The apparent distortion noted in tracing the kerb at the east is easily explained on the same principles as to the south by a glance at the contours of the original soil. This, standing at 3.30 under the northern kerb in Trench 1, had sunk .25 feet just round its corner 20 feet to the east. Along the axis of Cist I. it stood at only 1.10 just outside the kerb, and 18 feet farther south the original ground surface had sunk to .25 feet *below* datum. The extension of the kerbing here shown on the plan is therefore due to a banking-up designed to produce a level surface as along the south kerb. For this reason the outer kerb line detected here is marked by a different symbol to that used to denote the kerb's upper edge. As in the south trench, cairn stones were found to extend 7 or 8 feet beyond the kerbing. The spread here must be explained in the same way as in Trench 1.

The fine yellowish soil found above the cairn stones along the south side of the cairn and to the south-east constitutes a problem in itself about which a few words must be said here. It covers the red gravelly soil to a depth of 2 or 3 feet, and slopes less markedly from east to west (1 in 44 as against 1 in 33). Moreover, last year it was found to have buried the southern boundary dyke enclosing the cairn area to a depth of 3 feet 6 inches at least. It would seem, therefore, to be a quite recent deposit. A mountain stream now flows across the field south of the cairn area, and has only been prevented from flooding the land by a recently built bank of stones. Since the fine deposit is not traceable on the northern side of the 3-foot ridge on which the cairn stands, it would be natural to infer that the deposit is due to floods by this stream. Its volume seems, however, almost too great for such a cause. The evidence from the dyke at least implies that the deposit is later than the cairn.

It was hoped that the removal of the large tree stump that grew behind the eastern cist, planned and described in 1929 by Misses Kennedy and Mitchell, might reveal an extension of that chamber westward to the great upright stone that stood across its main axis 13 feet to the west. The roots of the tree had, of course, wrought much destruction to all cairn structure beneath them, but immediately behind the westernmost uprights of Cist I. large boulders carefully packed were observed, suggesting that here we were in the body of the cairn and no longer in the chamber. On the other hand, one slab on edge,

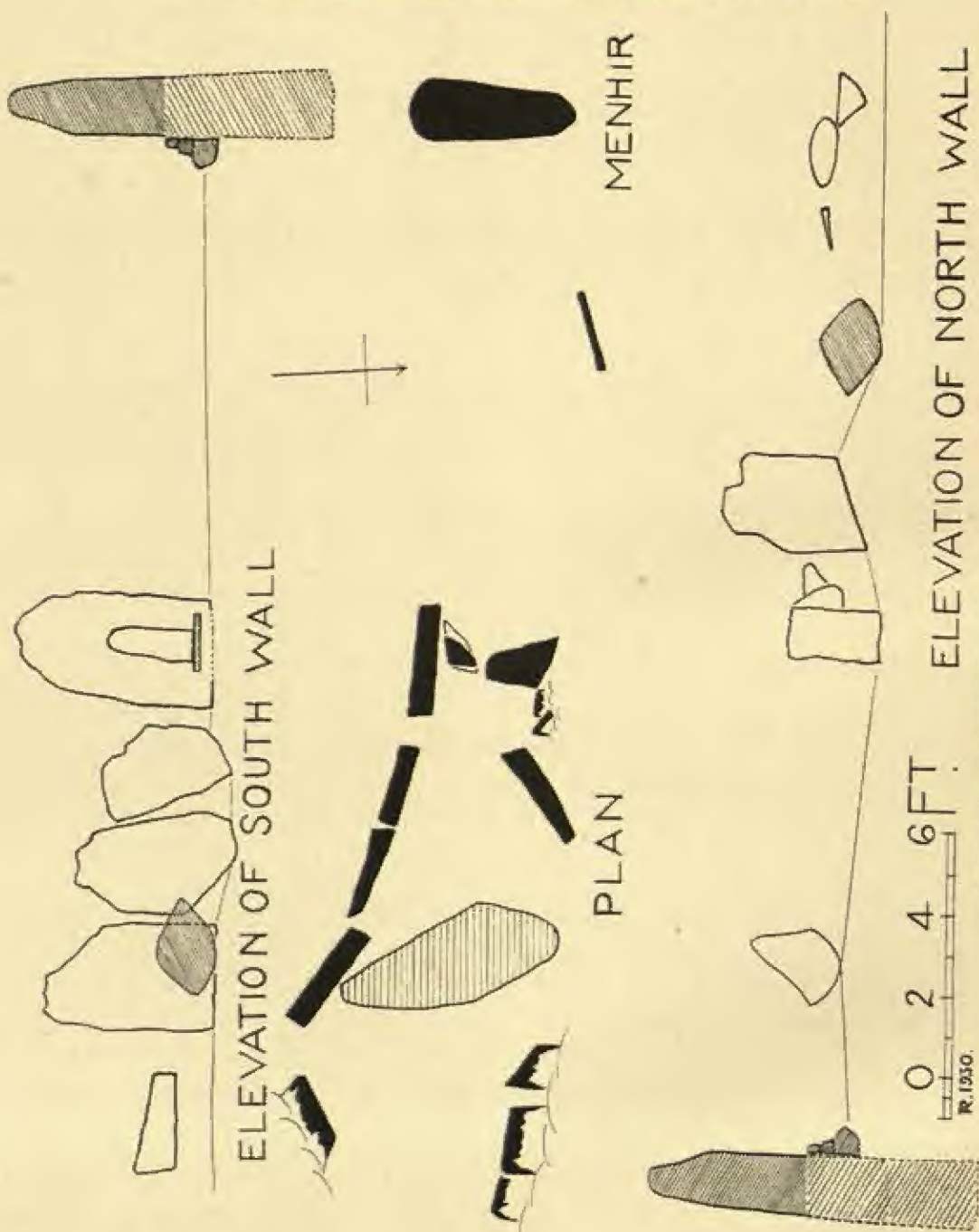


Fig. 7. Plan and Elevations of Cist L, Kindrochat Cairn.

only 1 foot 9 inches long by 2 feet high, might possibly have formed a continuation of the northern wall of Cist I. westward. Still, on the whole, the evidence is against any such westward continuation of Cist I. A new and clearer plan with elevations of Cist I. has, however, been prepared by P. Kennedy and M. E. Orichton Mitchell, and is reproduced here to replace that previously given (fig. 7).

The great upright or central menhir, which is the highest and most conspicuous stone of the cairn, must be regarded as independent of Cist I. A pit dug against its western face showed it embedded in the red virgin

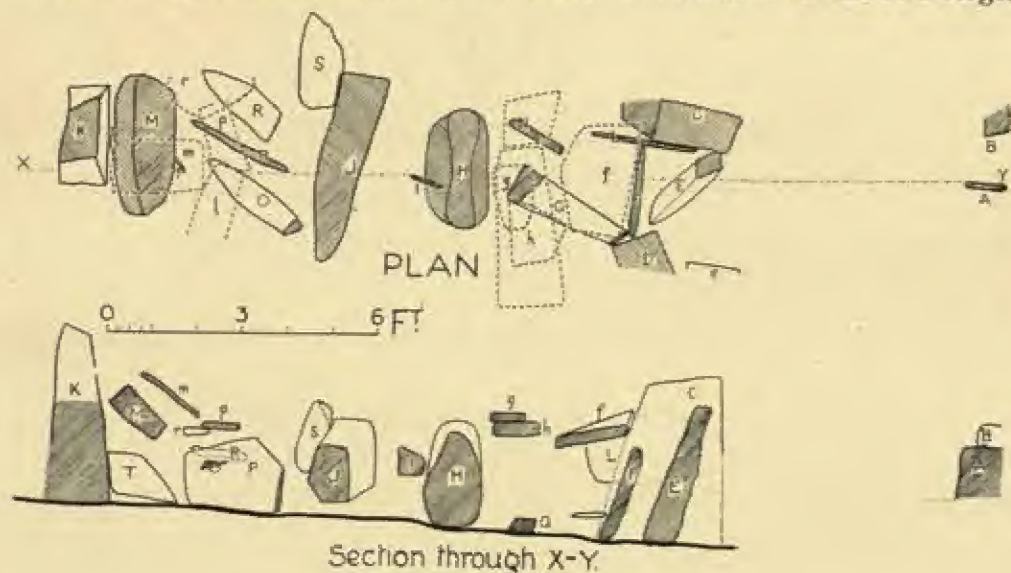


Fig. 8. Kindrochat: Cist III.

soil to a depth of 3 feet 6 inches. On the east it was wedged up by flat stones set obliquely in the red soil. Evidently this stone must have been erected at the same time as the cists and before the cairn was piled over them. Nothing was found at its base. It should here be noted that the larger pillar-stones of Cists I., II., and III. are likewise embedded in the red gravelly soil.

CIST III. (fig. 8).

A pair of uprights rising above the turf on the south slope of the cairn west of Cist II. and a tall pillar north of them suggested the possibility of a cist in this direction. Trench 5 was accordingly cut across the cairn between the two uprights, C and D on the plan, to the northern pillar-stone K. On the line of the south kerbing of the

cairn we here encountered the stone on edge A rising above the general level of the wall and the large block B to the east of it. North of this point the trench contained nothing but loose cairn stones till we reached the uprights C and D. Just beyond these we found, immediately under the turf and a superficial layer of feld stanes and mould, the series of horizontal slabs, *f, g, h, m*, extending for a distance of some 4 feet, and a similar series of flat slabs 4 feet in front of the pillar K. After



Fig. 9. Cist III., looking south, before removal of horizontal slabs (arrows indicate stone K).

being planned and photographed (fig. 9) the horizontal blocks were taken up, disclosing stones on edge, F and H, lying athwart the trench, and other large stones, E, G, J, and O, tilted at odd angles (fig. 10). Cairn stones and fragments of slabs lay among these larger blocks and were often wedged in, under, or between them. The trench was eventually deepened to the level of virgin soil, some smaller stones, L, M, N, O, and R, having to be moved in the process. It was thus established that the bases of stones F, H, and P and one end in each case of stones E, G, and J rested on virgin soil, while stones C, D, and K are deeply embedded therein. Blocks E, G, and J were found to be respectively 3 feet 3 inches, 3 feet 9 inches, and 4 feet 6 inches long.

It is possible that E, G, and J are the displaced uprights of a long cist. C and D would represent its portal and K the headstone. The horizontal slabs might be cover-stones, F a fallen lintel or a sill, while H would make an excellent septal stone resembling that in Cist II. The difficulty is obviously the absence of lateral slabs (apart from the supposed pillars E, G, and J). In the walls of our trench we could see only the usual boulders packed together with no more care than in



Fig. 10. Cist III., looking north (staff stands behind stone K).

other parts of the body of the cairn except just outside the pillars C and D. Here there was a regular wall of horizontal courses of flat slabs (fig. 11). In any case, the cist, if such it were, had been too much disturbed for any reconstruction to be possible. Nor were any relics discovered, though every trowelful of earth from beneath the horizontal slabs was laboriously riddled.

CONCLUSIONS.

1. The site of the long cairn at Kindrochat was a ridge, rising only 3 or 4 feet above the surrounding ground and covered like it with the red alluvial soil laid down by the Earn. The ridge sloped away to the south, east, and north.

2. The cairn was built along the southern slope of this ridge, extending westward from its eastern extremity.

3. Prior to the erection of the cairn the pillar-stones of the cists, the central menhir, and the western boundary stone must have been set up, since all are embedded in the red soil to a considerable depth.

4. The cairn, which surrounded and presumably covered the cists,



Fig. 11. Wall at Entry to Cist III. (west side). (Arrow indicates stone D.)

was composed of large water-worn boulders which, at least in the lower courses, were carefully packed together, bedded in the red soil, and wedged with smaller boulders.

5. The cairn was surrounded and supported by a kerb or rough wall of flat slabs, some laid horizontally, others criss-cross or on edge, and embedded in virgin soil.

6. On the north, where it ran along the crest of the ridge, the kerb was much lower and narrower than on the south. Here, to compensate for the depression of the land surface, the kerb had been built up to a height of 2 or 3 feet and strengthened by lateral extension southward. Hence, when planned without regard to ground-levels, the

cairn seems lopsided, but the asymmetry disappears if the outline be plotted approximately on the plane of the northern kerb.

7. No cairn material was found north or north-east of the northern kerb, but big stones extended for a distance of from 8 to 12 feet beyond the southern one. These may represent the natural "spread" of the cairn, due to stones slipping down the steeper slope, or they may denote a deliberate banking-up supplementing that effected by heightening the kerb on the low side of the ridge.

8. The cairn was cigar-shaped and unhorned. It was orientated east and west with its broader end to the east. Its axial length was about 135 feet and its greatest width just under 36 feet.

9. It covered three long cists, one at the east end and two along the south side at right angles to the first. Cist II., which alone is reasonably intact, corresponds in plan to the segmented cists of the Clyde basin, and especially to the degenerate versions thereof known from Galloway. The arrangement of the cists recalls that discovered by Edwards at Drannadow, but the pair of cists opening to the north at that site are missing at Kindrochat.

10. The only relic from the site was a leaf-shaped arrow-head of flint, discovered during 1929 in Cist II. It confirms the dating and affinities of the monument. The Kindrochat cairn does, in fact, denote an extension of the megalithic culture of the south-west coast across the watershed.

The excavations, which were supplementary to the researches embodied in Professor Childe's Munro Lectures for 1929-30, were rendered possible by a grant from Edinburgh University, grateful acknowledgment of which is hereby made. The work was carried out by the following members of the Edinburgh League of Prehistorians: V. G. Childe, A. Gilmour, I. Henderson, P. Kennedy, M. E. Crichton Mitchell, and T. Mitchell, who have all contributed to the production of the report and plans. Our thanks are due to W. Gilchrist Macbeth, Esq., proprietor of Dunira, and to Mr Macintyre, tenant of Kindrochat, for permission to excavate, loan of tools, and other courtesies, and to Mr Paterson, factor of the estate, for much kind help.

IV.

AN UNDERGROUND PASSAGE AT AUCHENCASS CASTLE,
DUMFRIESSHIRE. BY H. J. YOUNGER, F.S.A. SCOT.

The ruined castle of Auchencass stands in the parish of Kirkpatrick Juxta, about 1 mile north-west of Beattock Station.¹ Its situation is a fine one, on high ground commanding a wide view of Upper Annandale. The castle is a thirteenth-century erection; apparently it was partially

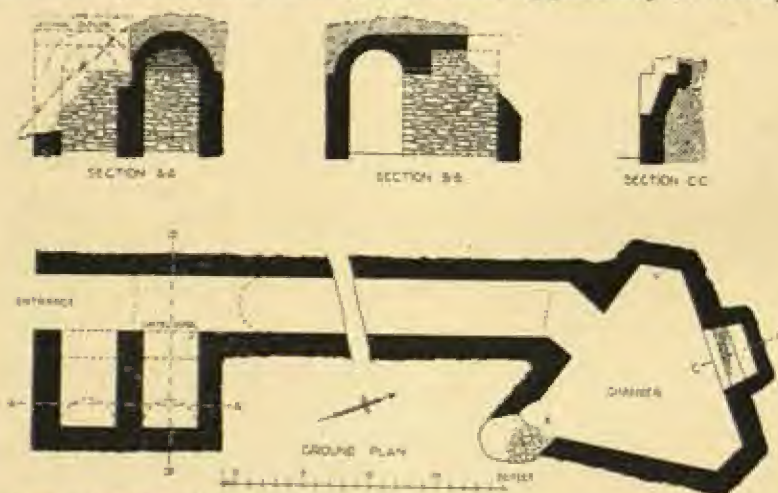


Fig. 1. Plan and Sections of Underground Structure at Auchencass Castle, Dumfriesshire.

demolished during the War of Independence and was rebuilt some time during the fourteenth century.

The underground passage which forms the subject of this paper lies some 70 feet to the east of the moat on the east side of the castle. Its purpose is not readily apparent, and the very curious building at either end of it adds to the mystery. It is hoped that the plan and the description which follows may enable some reasonable conjectures as to its possible use to be formed.

The passage itself is almost intact, but the building at either end is less well preserved. The passage runs almost due north and south, the entrance apparently having been at the southern end. The ground hereabouts slopes down towards the south, with the result that entry can be made directly from the face of the slope, as is shown in the

¹ For a full account of the excavation of the passage and castle of Auchencass see the *Journal of the Dumfriesshire and Galloway Antiquarian Society*, 1925-6.

section AA.¹ The dimensions of the passage are 77 feet long by 4 feet wide. The walls are 6 feet 3 inches in height and are of uncoursed random rubble set in mortar. The roof is vaulted, the stones here also being set in lime mortar. The crown of the arch is 18 inches vertically above the top of the walls. The roof is only about a foot below the level of the ground, so it will be recognised that the passage is really a vaulted trench and not an excavated tunnel. The ground slopes down gently from the east side of the moat to the passage, but there is a small though well-defined rise as it passes over the passage. It does not seem, therefore, at the present time as though concealment had been a primary object in the construction of the passage. But it is quite possible that in the course of time the contour of the ground has altered. This is all the more possible since it is of a marshy nature, and it therefore seems reasonable to assume that the passage may originally have been so contrived that the ground above it showed no trace of its existence.

The floor has probably been laid with some sort of paving, but as it is now covered with a considerable amount of debris and is under several inches of water it is not easy to be certain of this. The passage itself, then, has no features which call for special description. It runs perfectly straight until it turns to enter the northern chamber; the walls and vaulted roof are in excellent condition. The height from the floor to the crown of the vault being 7 feet 9 inches, it is obvious that the tallest man could walk along it in comfort.

It is when we come to examine the structures at each end that we find the puzzling features. As will be seen on the plan, there are the remains of two oblong chambers on the east side of the passage at its southern end. They open out of the passage on the same level. The floor measurements of each are 7 by 4 feet and they are divided by a partition wall 2 feet thick. The southern one is somewhat dilapidated and only the ground-work remains, with the exception of the partition wall, which stands to a height of 5 feet or so. The other chamber is, fortunately, in a much better state of preservation. It is vaulted to about the same height as the main passage and at right angles to it. The height of the entrance has been restricted to about 6 feet 3 inches, due to the fact that a lintel has been used here to carry the arch of the main passage at its junction with the chamber. This is indicated by the section at BB, which also shows that a short part of the roof and a portion of the east wall have been demolished. As already mentioned, the section at AA shows how the ground falls away at the southern edge of the passage. It seems

¹ I am indebted to Mr A. P. Somerville for the plan, etc., here reproduced.

probable that the two chambers were originally of similar dimensions and that the passage extended to the outer wall of the south chamber, in which case the masonry at its entrance would have been exposed.

If we now follow the passage northwards we find that it suddenly turns about forty degrees to the east, and opens out, on the same ground level, into the apartment depicted on the plan. At the present time the floor is littered with stones and is overgrown with grass and rushes. It was also under several inches of water when it was last visited for the purpose of measuring it up. The apartment stands open to the sky, its roof having disappeared together with the last 2 feet of the passage roof. It is assumed that it was originally roofed, since it does not seem logical that access to an unroofed chamber should have been through a well-roofed passage of such a length.

With the exception of the points marked X and Y on the plan, the walls are in good condition. They are of similar construction to the walls of the main passage, *i.e.* uncoursed random rubble set in mortar, and they also rise to a height of 6 feet 3 inches from the floor level. At this height, and continuing round the whole periphery of the chamber, a ledge has been formed about 12 inches wide; and at the back of this ledge a wall again rises to a height of 12 inches, the ground level being about another 12 inches above this. The existence of this ledge might indicate that it was formed for the purpose of carrying a vaulted roof. Such vaulting would be semi-elliptical and would be constructed of three main parts, each of which would spring from one of the three long sides of the chamber. Thus constructed it would perhaps rise to a maximum height of 7 feet 9 inches at the apex—*i.e.* to the maximum height of the main passage. In this way it could have been covered with earth so as to conform roughly to the general ground line. Alternatively the chamber may have been roofed with wood, in which case it is impossible to say what form the roof may have taken, though one would imagine that the apparent secrecy of the passage would require a flat roof to this chamber.

At the corner of the chamber, marked X on the plan, the wall has fallen in for a few feet of its length, but there still remains part of what has been a shallow recess of a curved form. A shaped semicircular stone was found on the site, and as its outer curve practically conformed to that of the recess it seems probable that it belonged there. It is possible that it was part of a chimney and that there was a fireplace in this corner. The raggle on the stone in question suggests that the roof abutted it. The raggle probably contained the lead flashing.

The east wall has no peculiarities, but the north wall shows one curious feature. At about the centre of its length a recess is formed, its

construction being as follows: The wall rises vertically from the floor to a height of 3 feet 3 inches, at which height a ledge 9 inches wide is formed. This is shown in the section at CC. From the back of this ledge the wall rises on a slope to a height of 6 feet 3 inches from the floor—*i.e.* to the height of the wall-head ledge. The depth of the recess at this point is 22 inches from the main wall-face. A ledge, similar in dimensions to the one already described, runs along the back of the recess but not along the sides. The width of the recess is 4 feet 6 inches. It was probably used in conjunction with a window or hatch at a higher level.

On the short length of wall marked Y on the plan only the wall-head ledge, with a few courses of stone below, remain intact. From the floor to a height of 5 feet or so the wall has been demolished and the masonry above has been shored up with a wood lintel of recent construction. This is the work of some earlier investigator, who has evidently determined to find out whether there were any signs of a communicating way with the castle at this point. Nothing, however, is revealed behind the wall save the natural soil undisturbed in any way. If there had been communication with the castle this would seem to be the likeliest place to look for signs of it. Nowhere else in the passage or chambers does the masonry show any signs indicating the possibility of a secret entrance, and it may be added that within the castle itself no traces have been found of the beginnings of any subterranean passage. It seems, therefore, that we must discard the theory of a communicating way, and the problem of the purpose of the passage is thereby made much more difficult. In their survey of Dumfriesshire, the Royal Commission on Ancient Monuments hint that the passage may have been used as a sally port. It hardly seems likely that this can have been the case, for two principal reasons. One is that, as has just been explained, it is almost certain that there is no communication between passage and castle. The second is that the passage is tactically unsuited, both in its construction and position, for such a purpose.

It is easy enough to offer destructive criticism of suggestions put forward in this problem; the difficulty is to present any suggestions which can be upheld with the slightest degree of confidence. The whole problem is extremely baffling, and it is greatly to be hoped that someone will be able to shed light on it. Whoever does so will earn the gratitude of many antiquaries and others who have puzzled in vain over the Auchencass passage.

Since writing the above, Mr Richardson, the Inspector of Ancient Monuments for Scotland, visited the site with me. He considers the structure to be of eighteenth-century date, but refrains from making any suggestion as to its use.

MONDAY, 9th March 1931.

CHARLES E. WHITELAW, I.A., Vice-President,
in the Chair.

On the recommendation of the Council, Samuel Smith, Mumrills, Laurieston, near Falkirk, was elected a Corresponding Member.

A Ballot having been taken, the following were elected Fellows:—

Rev. HUGH M. AGNEW, M.A., Minister of St David's North Church of Scotland, 2 Foster Road, Downfield, Dundee.

ALEC WILLIAM HAGGIS, 33 Sudbury Avenue, Wembley, Middlesex.

DONALD HERBERT JONES, 35 Hillside, Neath, Glam.

THOMAS MACKENZIE, J.P., F.E.I.S., Schoolhouse, Canon Bridge, Ross-shire.

COLIN SMITH, M.A., 47 Belville Street, Greenock.

The following Donations to the Museum were intimated and thanks voted to the Donors:—

(1) By H.M. GEOLOGICAL SURVEY OF SCOTLAND with the consent of the Executrices of John Smith, Dykes, Dalry, Ayrshire.

A large collection of Flint and Stone Implements, and other relics, found in Aberdeenshire, Ayrshire, and Wigtownshire, by the late John Smith. These include relics from Stevenston Sands and Shewalton Sands, Ayrshire; Glenluce Sands, Wigtownshire; the Crannog in Ashgrove Loch, Stevenston, Ayrshire (see *Arch. Coll. of Ayr and Galloway*, vol. vii. p. 56); a kitchen-midden at Ardrossan (see *Ayr and Galloway*, vol. vii. p. 62); the Cave at Cleaves Cove, Dalry, Ayrshire (see *Ayr and Galloway*, vol. vi. p. 1); and the Aitnock, Coalhill, and Castlehill (Howrat) Forts, near Dalry (see *Proceedings*, vol. liii. p. 123).

(2) By JAMES MATHER, F.S.A.Scot.

Section of a Rope of Horses' Hair for cliff-climbing, from St Kilda. It is made of short hairs, not from the tail, and consists of three cords of four strands each, twisted to form one rope.

The following Donations to the Library were intimated and thanks voted to the Donors:—

(1) By JOHN DONALD, F.S.A.Scot., the Author.

Old Greenock Characters. Second Series. Perth, 1930.

EXCAVATION OF AN EARTH-HOUSE AT FOSHIGARRY. 299

(2) By JAMES HOULT, F.R.Hist.S., F.S.A.Scot., F.R.S.A.Ireland, the Author.

Lancashire Local History: The Vill, Manor, and Township of Knowsley.

The following Communications were read:—

I.

EXCAVATION OF AN EARTH-HOUSE AT FOSHIGARRY, AND A FORT, DUN THOMAI DH, IN NORTH UIST. BY THE LATE ERSKINE BEVERIDGE, LL.D., F.S.A.Scot. WITH NOTES ON THE STRUCTURES AND THE RELICS FOUND IN THEM, BY J. GRAHAM CALLANDER, F.S.A.Scot., DIRECTOR OF THE NATIONAL MUSEUM OF ANTIQUITIES OF SCOTLAND.

In 1911 Mr Erskine Beveridge, LL.D., F.S.A.Scot., published his monumental work, *North Uist: Its Archaeology and Topography*. The publication of this volume, a fine record of sustained individual effort, had been preceded eight years earlier by his book, *Coll and Tiree: Their Prehistoric Forts and Ecclesiastical Antiquities*. Although several notable books have been written on antiquities in the Western Highlands and Islands of Scotland, these were limited to the description of restricted classes of monuments, but Mr Beveridge's two books consisted of an exhaustive survey of all the archæological remains which he could trace in the parts selected by him. In addition, *North Uist* contained the accounts of a number of very important excavations which he had carried out on that island.

Following the publication of *North Uist*, the four summers preceding the outbreak of the Great War were devoted to excavations on his own estate of Vallay in the north-west part of the island, which in spite of its remoteness is particularly rich in remains of early times. The war having ended, the work of excavation was resumed in 1919, but before the end of next summer Mr Beveridge had passed away.

During these five summers the chief work carried out was the excavation of earth-houses at Foshigarry and Garry lochdrach, the fort of Dun Thomaidh (pron. Homi), on an islet on Vallay Sound, and an earth-house at Bac mhic Connain, Vallay. Before his death Mr Beveridge had written draft reports on, and prepared plans of, his discoveries at the first three sites, and he also left a very complete working diary of his operations at the last-mentioned place.

Mrs Beveridge most generously presented the more important relics

recovered from these and other sites in North Uist to our National Museum, and handed over his notes to me so that a record of the excavations might be published.

It is proposed to describe the excavations at Foshigarry and Dun Thomaidh to the Society in the present volume, and those of the other sites later on.

FOSHIGARRY: AN UNDERGROUND VILLAGE. BY ERSKINE
BEVERIDGE, LL.D., F.S.A. SCOT.

At some remote period—perhaps even earlier than the Norse domination—this general site has been occupied by a group of no fewer than six subterranean structures, marked A to F on the plan on Pl. II., five of them contiguous and apparently accessible to each other by internal communications, while the sixth stood at a distance of 15 yards from its neighbour, and at a lower level. Three of these, A, B, and C, were comparatively large, each with a diameter of about 30 feet and containing, at least, part of its circumference, radial walls similar to those already described by the writer at Machair Leathann, Cnoc a' Comhdhalach, and Eilean Maleit, all situated within the same district near the north-west corner of North Uist.¹ The other three chambers, D, E, and F, were of much smaller dimensions and distinctly deeper, being also somewhat oblong-oval in shape instead of circular, and approached by a subterranean passage of the earth-house type with a total length of 42 feet, although its direct access into F (the largest of these minor constructions) was placed at a point only 14 feet distant from the outer entrance to this passage at its north-west extremity.

It is manifest that all these habitations or chambers were underground in character, if only from the nature of their boundary walls, which are quite unsubstantial, being mere linings from 12 inches to 14 inches in thickness, without any intrinsic strength, and backed against the surrounding soil. There is further evidence that the whole site originally consisted of blown sand piled upon continuous rock along the shore—witness the whole interior of A, the interval between A and B, and the undisturbed sand behind the backs of the walls and underneath the floors and walls of the entire group. The natural deduction follows that these underground dwellings must necessarily have been constructed, first by a more or less thorough excavation of the space required, and then by the erection of retaining walls against the inner bank of sand, as also by the formation of the long slab-covered passage at the level of the lowest floor, and of the drains underneath the

¹ *North Uist*, pp. 121, 200, 207.

various floors. By no process of tunnelling could the purpose have been achieved, having regard to the sandy nature of the soil. The smaller chambers, D and E, as possibly also F, and the radial chambers in the outer portions of A, B, and C, were certainly roofed by overlapping slabs of stone, evidence to this effect being specially noticeable in A and D.

These six ancient structures occupy an area measuring about 50 feet by 160 feet, and are ranged in an almost continuous line along the shore—apart from two or three slight outlying and unoccupied promontories—at the edge of a bay which faces north towards the Atlantic Ocean, and bristles with hidden reefs. The locality is 500 yards west of Griminish farm-steading, and in surface appearance now shows itself only as a row of three or four grass-covered knolls, capped by little more than the foundations of a few comparatively modern dwellings which represent the former hamlet of Foshigarry. Situated near the northern base of Beinn Scolpaig, with a narrow intervening strip of arable soil, this was the home of several generations of cottars for at least a century after c. 1700-50. The scanty remains of six or eight houses with some adjoining stack-yards are still clearly visible. Apart from the forbidding sea-board, Foshigarry is an attractive spot, thoroughly sheltered against the south-west or most stormy quarter. Even in prehistoric times it would naturally appeal to its early colonists.

The main site, comprising B, C, and F, lies at the seaward edge of the highest knoll, Chambers D and E, which are smaller, occupying an inner position almost directly underneath the wall of a ruined cottage upon the very summit. These modern foundations stand at a height of 8 or 10 feet above the level of the ancient floors. C has been already noted as one of the three larger structures, A, B, and C, and is the westmost of its type, with a doorway leading immediately into B on the south-east. What remains of A is separated from B by an interval of about 15 yards. It is to be noted that these three chambers contain radial walls.

Chamber A, the most easterly of the group, and the earliest to be excavated in the summers of 1911-2,¹ was evidently once circular in form, with a probable diameter of about 30 feet, although at the present day showing little more than one-third of its original circumference, in a segment which contains four radial compartments—two of them, A 2 and A 3, complete as to ground plan, but the others, A 1 and A 4, with their outer-

¹ The discoverer of this site was Angus MacRuari, a farm-servant at Griminish, who in 1911 reported several prehistoric objects from A 1, kitchen-midden remains upon the scarped edge of the shore opposite C, and the apparent entrance to an underground passage at H.

most lateral walls not now traceable. The interior of the existing portion was filled with blown sand, and a layer of the same material, about 12 inches thick, extended even underneath the foundations, these resting upon a substratum of natural loam. These features were distinctly more noticeable in connection with A than with B, C, and F, which were afterwards excavated. The radial walls of A, at their northern ends, stand within 2 to 10 feet of the precipitous shore, and it seems obvious that the seaward half of this structure has long since vanished through the gradual encroachment of the sea during untold centuries.

The floor level of A stands about 6 feet above the present normal high-water mark, its circumferential wall, behind A 2 and A 3, as also part of the wall of A 1, remaining apparently intact to within 6 or 12 inches of the grassy surface, although its radial walls are now only from 2 feet 3 inches to 5 feet 2 inches in height. The two fairly complete radial chambers measure: A 2: width at back 8 feet, at front 7 feet; height of wall at back 6 feet 8 inches. A 3: width at back 6 feet 9 inches, at front 4 feet 6 inches; height of wall at back 5 feet 2 inches; the length of the radial walls in each case being 7 feet. A 1 and A 4 seem to have been about 8 feet wide at their backs, with the wall of A 1 5 feet high, while that of A 4 is in great part lost. The boundary wall at both A 1 and A 2 is coved inwards, this being especially noticeable in A 1, where the curve commences at less than 4 feet above the foundations.

Each radial compartment in A presented some individuality as to structure or contents, viz.: A 1 had two boles in the upper part of its back wall, one of these containing some shells and a cut deer-horn tine, with another in its west radial, perhaps extending through that partition into A 2. In A 1 were found a few fragments of patterned pottery; several small pieces of shaped cetacean bone; a fine, perfect seven-fingered weaving comb in the same material, with a carefully bored hole through its handle, from the floor at the north-west corner of the compartment (fig. 11, No. 1); a sandstone whorl with an unusually small hole; a shaped bone pierced by a round hole near one end; part of an antler showing marks of cutting; two or three hammer-stones, one of them of quartz; and the greater portion of an upper quern-stone.

A 2 showed segments of a wall, here and there plastered with clay, partially closing its inner end. The boundary wall, at a height of 4 feet, contained a large bole 9 inches wide by 12 inches high, and reaching inwards for almost 20 inches. Near the floor lay eleven stone slabs, evidently fallen from the roof. Here were also found small pieces of patterned pottery; half a dozen thin discs of mica-schist, averaging $\frac{3}{4}$ inch in thickness and measuring from 5 inches to 6 inches in diameter, rudely chipped to circular outline, but including a rectangular specimen

with rounded corners; two bone pins; and several shaped slabs of cetacean bone. One hammer-stone was found in a crevice of the back wall.

A3 had three boles, one in its exterior wall and another in each radial wall. Pottery was scarce, but several hammer-stones lay close together upon the floor at the north-east corner, and two or three within the boles. In cetacean bone two items must be noted: an incomplete flat segment curved at one end and with one straight side, this latter containing two angled incisions, and another of somewhat cylindrical shape, rounded and broken at one end (fig. 13, No. 1).

A4 contained few relics, it and A3 perhaps having been already ransacked. Upon the floor, which, like that in A3, was evidently paved with clay, lay a socket-stone 16 inches square and $3\frac{1}{2}$ inches thick, and about 3 feet seaward from the north end of the radial wall between A3 and A4 were found ashes, presumably near what was once the central hearth of A. Three or four V-cut slabs of cetacean bone, and part of an antler sharply sliced off at its base, were also found here.

Taking A as a whole, in addition to those specimens which have been individually noticed, the relics comprised about twenty shaped portions of cetacean bone; a dozen hammer-stones, including several in quartz; three broken quern-stones; a few pieces of cut-marked bone; twenty-one fragments of patterned pottery in at least thirteen distinct varieties of ornament, one bearing an appliqué band indented with a row of hollows apparently produced by the insertion of a finger-tip; and the base of a vessel in baked clay, chipped to circular shape with a diameter of $2\frac{1}{4}$ inches.

Throughout this group of earth-houses at Foshigarry perhaps the most outstanding feature was the comparative abundance of artificially shaped cetacean bones, including a series of more than forty specimens (each fragment not being counted, but only the number of separate items which they represented) of flat or slightly curved slabs, usually measuring when complete about 8 or 9 inches in length by 3 inches in width by $\frac{1}{2}$ inch in thickness, with the peculiar characteristic that each bears four, or occasionally six, V-shaped incisions in its sides, symmetrically arranged at both edges in precisely opposite pairs. Of this type, which is apparently hitherto unchronicled, about a dozen were found in A, including two or three complete examples and four others nearly so, one of them very flat and measuring only $5\frac{1}{4}$ inches by $3\frac{1}{2}$ inches by $\frac{1}{4}$ inch. Many more were discovered in B, to which may better be relegated an attempt at their general description and classification.

On the beach, exactly at the present high-water mark, close to the steep bank of the shore and about 6 yards east of the extremity of

A1, is the complete outline of an ancient harbour. Whether or not it may also be prehistoric is not certain.

The interior measurements of this harbour, abutting upon the coast-line at the south, and with seaward walls measuring from 2 feet to 3 feet thick, are about 31 feet in length by 12 feet in greatest width. It has two divisions, the lower 16 feet and the upper 12 feet in length, separated by a wall 3 feet thick, through which is a nearly central opening 3 feet 6 inches wide.

At their present nearest extremities B stands 43 feet west of A, but between them, 24 feet west from A and 12 feet east from B, are two portions of a slender curvilinear wall facing north, altogether about 10 feet long, 22 inches high, and only 10 inches thick. Excavation was here tried in all directions, but without any result, pure sand lying everywhere around.

Chamber B proved to be rather nondescript in shape, its enclosing wall at the west being comparatively straight over a length of 25 feet, with a thickness of 2 feet, and possibly attributable to secondary construction. Its eastern boundary is now entirely absent for a distance of 30 feet, but it shows in the south a segment of a circular wall for about 10 yards as a mere single-stone lining, 12 to 14 inches thick, and nowhere over 3 feet in present height; its eastward portion for 10 feet is only traceable as foundations. At the extreme north of B is another segment of curved wall in a length of nearly 12 feet, there showing as an independent wall 2 feet thick and 1 foot 10 inches high. The whole structure seems to have been sub-circular in form, with an original interior diameter of nearly 30 feet, situated at its nearest part about 12 feet from the margin of the steep shore on the north.

It is to be remarked that B contained five internal walls, which may be termed "radials," in its southern half, but none in its northern. Three of these, numbered 2, 3, and 4 on the plan, are characteristic radials, but not, as in A, joined to the circumferential wall, being isolated piers, 4 feet 2 inches to 4 feet 8 inches in length, 2 feet 6 inches high, with a thickness of 12 to 14 inches, and having clear intervals of 2 to 3 feet at their outer ends. Nos. 1 and 5 do not seem to have been true radials, No. 5 in particular forming the inner wall of a short passage leading to a doorway which connected B with C on the west, while No. 1 stands at an unusual angle, although with a normal opening of 5 feet between its inner end and that of No. 2. Radial No. 1, 7 feet in length, also formed the north side of a trapezoidal compartment, open, as just noted, on the west, but walled at the east and partly on the south. This latter position was occupied by a thin slab, 4 feet wide, now split in two, which was set on end and reached just up to the surface, a

distance of 2 feet 9 inches, before the excavation was made, with a gap of 17 inches between its west end and radial No. 2. Radials Nos. 3 and 4 were also nearly joined by a wall between their inner ends, but with an opening left at its eastern extremity.

The absence of radial walls on the northern half of B may be due to its having become the site of a comparatively modern cottage, just as in C, where the foundations of a building of this class had to be removed from a like position. C also showed four radials in its south half but none in its north. There is also evidence that B, like C, and even more markedly so in the case of D, had been overhauled, probably within the last two centuries, to supply building material for the groups of cottages which once stood at Foshigarry.

The enclosing wall of B remained to a height of $2\frac{1}{2}$ to 3 feet on the south and 2 feet on the north, the southern portion being covered by 6 to 18 inches of soil and loose stones, and the tops of the radial walls Nos. 2 and 3 by 5 and 10 inches respectively. The depth of excavation in the northern half was little over 2 feet, and the west wall stood almost level with the surface, with an average height of 2 feet 10 inches. The floor rose slightly towards the north, and for the most part consisted of a layer of loose sand paved in some portions, notably near and under the hearth, although perhaps not throughout, with small flat stones, its elevation being about 12 to 15 feet above high-water mark.

Two entrances were traceable, one each at the south-west and north-west extremities. Allusion has been already made to the former and to the quasi-radial wall No. 5, which measures 4 feet 5 inches in length and 4 feet 8 inches in height, and is completely pierced near its centre by a rectangular hole measuring 4 inches by 7 inches, this radial, together with the southern boundary wall, here much caved, making a short passage 3 feet 4 inches wide at its inner end. It is partly paved by a single large slab, which has served as a step, 10 inches high, and rests at its north side beneath the foundations of radial No. 5. This passage narrowed westwards to 2 feet 8 inches, and thence led into C through a doorway 1 foot 10 inches wide. The northern entrance, perhaps a secondary construction, was close to the west wall, and showed a passage 4 feet 3 inches long, widening inwards from 2 feet 3 inches to 2 feet 9 inches.

About 1 foot to the west of the inner end of radial No. 1 was an oblong-oval hearth, measuring 4 feet 8 inches by 3 feet 6 inches, its axis, almost east and west, lying nearly parallel with the inner wall between radials Nos. 3 and 4. This occupied a practically central position in B, and was raised about 4 inches. It had no kerbstones, but

was covered by a 6-inch layer of ashes resting on sand. To the east of this hearth, about 1 foot below the floor, were found a stone whorl, broken pottery, and some bones. Immediately adjoining the hearth was a sink formed by stone slabs, 1 foot 7 inches deep, and with interior measurements of about 2 feet 2 inches by 3 feet at its top, tapering downwards to 1 foot 4 inches by 2 feet 9 inches at its base. This sink has to be mentioned later in connection with six long flat slabs of cetacean bone which it contained.

Three built drains were traceable beneath the floor-level, two of them about 6 feet in length, the first entering the sink from the east and the second emerging from the sink northwards. The latter joined a third drain which, passing under the wall between C and B, ran eastward within B for 15 feet, and then took an abrupt turn in a northerly direction towards the shore.

Along the south-west edge of B were the remains of an oblong chamber with a doorway in its south end, measuring about 10 feet by 6 feet, but standing 3 feet above the floor-level of B, and with its wall-top a little below the present sloping surface. This is marked G upon the accompanying plan, and had evidently been a kiln, certainly of much later date than the earth-house and probably coeval with the old cottages at Foshigarra. The kiln itself in most part still exists, and has been of somewhat inverted conical form. It is now 2 feet 9 inches in height, with a diameter of 2 feet 2 inches at its base and 2 feet 7 inches at its top, built with large water-worn pebbles, and similarly paved. Exactly at its base is a horizontal rectangular shaft leading from B, at a height of 3 feet above the floor, this flue having a length of 3 feet 7 inches, and narrowing inwards from 16 to 7 inches, with marks of soot even yet upon its walls.

The foregoing record exhausts our available data as to B, except with regard to the various articles discovered therein. Outstanding among these were about thirty flat slabs, or portions of slabs, in shaped cetacean bone with lateral incisions in the form of the letter V, arranged in opposite pairs, similar to others of the same type already found in A (fig. 1). Taken as a whole, the large circular chambers, A, B, and C, in the Foshigarra group furnished more than forty examples of this class, many of them being represented only by fragments of different specimens, but including ten quite perfect examples, and at least twelve others sufficiently complete to show their original outline. Although averaging in size from 8 inches or 9 inches in length by 3 inches in width and $\frac{1}{2}$ inch in thickness, two were found measuring the abnormal extremes of $5\frac{1}{2}$ inches by $3\frac{1}{2}$ inches by $\frac{1}{4}$ inch, and 21 inches by 3 inches by $\frac{3}{4}$ inch. Except on five specimens, each of which bore six V-cuts, the



Fig. 1. Implements of Cetacean Bone from Foshigarry.

number of these incisions was invariably four, all having a lateral extent of from $\frac{1}{2}$ inch to $\frac{3}{4}$ inch. In only two cases was there any marked deviation from their arrangement in precisely opposite pairs. It is further to be noted that many of them showed cut-marks, as of a knife, upon their smoothest face, and that several were distinctly spatulate at one end. By far the finest were three, $12\frac{1}{2}$ inches, $12\frac{3}{4}$ inches,



Fig. 2. Implements of Cetacean Bone from Foshigarry.

and 21 inches long (fig. 2, Nos. 1 and 2, and fig. 3, No. 2), found lying in the bottom of the sink in B, together with three even longer slabs, without any V-cuts but otherwise of the same character, and measuring $17\frac{1}{4}$ inches, 20 inches, and $23\frac{1}{2}$ inches in length (fig. 3, Nos. 1 and 4). All six had been laid there, five of them carefully arranged side by side and the sixth crosswise at the west end, hidden beneath a large flat stone which at first was taken to be the actual base of the sink. This group of slabs may almost obviously be regarded as weapons or clubs, although such an explanation will hardly apply in the case of the shorter and by far more common type, unless they were hafted for use

as axes. Most of the smaller specimens in B lay above the floor in the neighbourhood of the hearth, and here were also two plain flat portions



Fig. 3. Implements of Cetacean Bone from Foshigarry.

8½ inches and 10 inches long, their texture entirely changed to stone-like character, apparently through the action of fire. It is further noteworthy that one V-cut slab, part of an antler, two bones, and a quantity of limpet-shells were found inside a large clay pot which stood inverted, its mouth resting upon the floor and closed by a layer

of clay and small pebbles, in the narrow open space left between the outer end of radial No. 2 in B and the surrounding wall. This pot was practically complete before being dug out bit by bit, and measured $14\frac{1}{2}$ inches in height; it was ornamented by a single band of raised zigzag pattern around its girth (fig. 4).

B also contained several other large pieces of shaped cetacean bone. One was part of a cup or bowl which had been hollowed out of a



Fig. 4. Clay Pot from Poshigarry.

vertebra of a whale, and another was an irregular cylindrical piece, cupped at both ends. The latter lay near the west side of the sink, and it becomes more interesting from the fact that close to the same spot was found a small disc of stone, with a slight boss upon one face and precisely fitting into one of the cups already mentioned.

Even less easy to classify is a flat fan-shaped specimen, pierced near its apex by a carefully wrought hole, bevelled from one face.

In cetacean bone may also be noted the handle of a long comb ornamented by two bands of lozenge designs (fig. 11, No. 4), and in ordinary bone part of a small-toothed comb with dot and circle ornamentation. A split knife-haft of bone bearing a single incised dot and circle was also found.

Near the hearth in B was found part of a large antler, cut off at both ends, its base solid but with a deep notch an inch higher up, the notch entering an oval hole bored along the centre of this segment for the remainder of its length, so that one can blow through from either opening (fig. 20, No. 5). We can only conjecture that this item may have been a whistle or perhaps a musical pipe, whether or not it was ever completed.

Many smaller articles in cetacean bone, ordinary bone or horn, deer-horn, pottery, and stone were found in B, but so many of these came from the after process of riddling the excavated soil and sand that one cannot speak with certainty as to the individual chamber, and it thus seems better to treat them together as relics from the general site, B, C, D, E, and F.

Chamber C immediately adjoins B on the west, separated from it only by the somewhat straight wall already noted as 25 feet in length and about 2 feet thick. In shape and size C much resembles B, although it is even less distinct in outline, fully one-half of its original enclosing wall being now lost. On the south and south-west this still remains in the segment of a circle, but in the whole northern portion it is quite untraceable. Apart from this deficiency, and assuming its original shape to have been sub-circular, C had evidently an original diameter of 30 to 35 feet. Excavation, to a depth of 7 feet 6 inches below the present upper surface, disclosed five radial walls within its south-western half, Nos. 1, 2, and 3 measuring 4 feet 5 inches to 4 feet 10 inches long, 3 feet 10 inches to 4 feet 10 inches high, with gaps of 20 to 30 inches left between their outer ends and the surrounding wall; No. 4 now represented by merely a fragment; and No. 5, which stands almost directly opposite No. 1, being a continuous pier, 10 feet in length and without any open space behind. The gap between the inner ends of Nos. 2 and 3 was closed by thin slabs set on edge, and the floor appears to have been paved throughout the whole area.

It seems probable that C, as was perhaps the case with B, which C otherwise so closely resembles, contained radial walls also within its seaward or northern half. In regard to C their absence can be well explained by the fact that its centre had been chosen as the site of at least one mediæval or even more recent cottage, of which it became necessary to remove the walls and hearth in the course of excavation. At 10 inches beneath the level of this secondary hearth was then found the original hearth of the chamber itself, about 2 feet to the north. This was rectangular in shape, and measured 3 feet 9 inches by 3 feet 2 inches, with a depth of 16 inches from its stone edging, 4 inches

above the floor-level; it was full of ashes. Within 3 feet to the south and 5 feet to the west of the hearth were two built sinks, each of them with sides slanting to a narrow base, and also partly covered by slabs of stone at the level of the floor. That to the south measured 5 feet long, with a depth of 18 inches, and a width diminishing from 18 inches at the top to 6 inches at the bottom; it contained a few animal bones and fragments of pottery, and had a drain from its north-east end running in an easterly direction, joined also by another drain commencing at the boundary with Chamber B. The second sink, towards the west, measured 3 feet 4 inches by 18 inches, with a depth of 18 inches, narrowing in the same way as the last to its base, and here

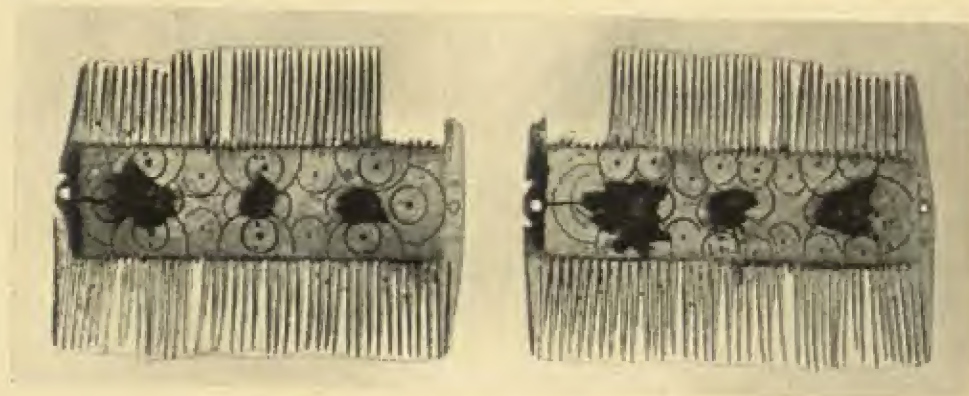


Fig. 5. Small-toothed Comb of Bone from Foshigarry. (4.)

were found a hammer-stone, some charred bones, and black ashes; no doubt it had also a drain, although this was not discovered.

In the circumferential wall, near the outer end of radial No. 2, was a bole 3 feet 4 inches above the paved floor, and measuring 15 inches in width by 12 inches in height. This enclosing wall had a thickness of only 12 to 14 inches and a height varying from 4 to 5 feet, practically coinciding with that of the radials Nos. 1, 2, and 3, but here covered by 1 foot 6 inches to 2 feet 3 inches of accumulated soil.

Relics of its former occupants were fairly abundant in C, comprising numerous specimens in cetacean bone (but very few V-cut slabs), ordinary bone and deer-horn, pottery and stone. Among these may be particularised a nearly complete small-toothed comb in bone ornamented upon both sides by a series of dots within circles (fig. 5). This was found on radial No. 4, of which only a fragment remains in the form of three steps, the comb lying on the middle "step" at a depth of 4 feet 6 inches below the present surface.

Upon the floor, 3 feet south from radial No. 4, was found a socket-stone measuring 20 by 17 inches, completely perforated through its centre; and underneath this, imbedded in sand, lay one of the typical cetacean slabs bearing four V-cuts.

C also yielded two other specimens marked with the dot-and-circle design, one of them in polished deer-horn cut off at both ends, and the other a short segment of hollowed bone. In bone was also found, near the bole, a small die for playing dice, pierced lengthwise by a small hole. Upon its four sides are incised the numerals 3, 5, 4, and 6, shown by dots within double concentric circles, arranged as illustrated in fig. 6. In cetacean bone was a long-handled weaving-comb, its handle ornamented across the end by three bands of herring-bone pattern and

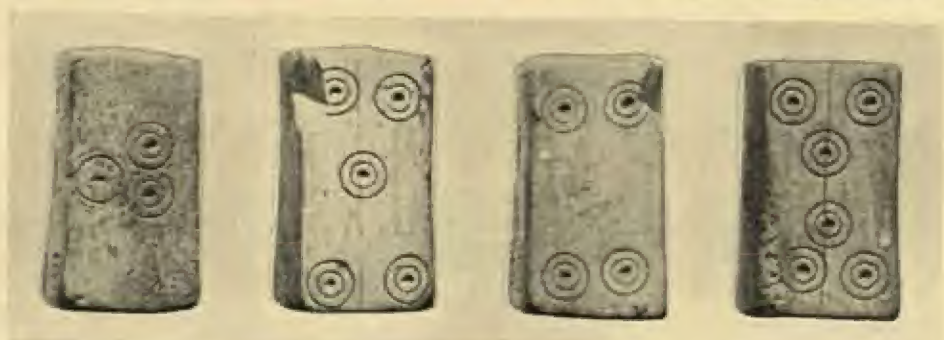


Fig. 6. Bone Die from Foshigarry. (J.)

next the teeth by another in lozenge-shaped design, the teeth evidently having been twelve in number although now almost entirely broken away, and another, also in cetacean bone, complete with its five stumpy fingers (fig. 11, Nos. 3 and 2). In stone are to be noted a thin piece of slate with a round depression clearly incised near one end; also part of a polished stone axe in very dense and dark material.

Closely adjoining Chamber C, to the south-west and west, are three other chambers, all of them much smaller in dimensions and perhaps with a somewhat lower floor-level. These are marked as D, E, and F, D being situated opposite radial wall No. 3 of C. It is oval in shape, and measures about 12 feet 6 inches in length and 7 feet 3 inches in greatest width.

Chamber D was paved in its north-western half, and apparently had a hearth midway against its western wall to judge from the quantity of ashes found there. The wall at that part stood 6 feet 6 inches high with 2 feet of soil above its top. Five boles were seen in this chamber. The largest placed in the south end was 17 inches high and 8 inches across

its mouth, widening to 12 inches at its curved back, which was recessed for 16 inches. This recess and one of the four smaller ones, all in the west wall, each contained a single bone which had been used or cut to shape. In addition were found, within crevices high up in the west wall, a small hammer-stone, and a tiny clay crucible—little over 1 inch in diameter and with a capacity of only 30 minims.

D, in addition to the unusual height of its wall, was remarkable for the fact that about thirty stone slabs lay in irregular positions near its floor, chiefly 18 inches to 2 feet in length, but the largest measured 4 feet by 2 feet with a thickness of 4 to 5 inches. These clearly represented fallen roof-slabs, and it was further noticeable that even underneath the paved floor, especially near a socket-stone, were found ashes, bones, hammer-stones, a meal-pounder, and fragments of pottery. The access into D was very indistinct, but there seems to have been an entrance from C, towards which chamber could be traced a narrow paved passage for a length of about 4 feet, 16 inches to 19 inches wide, and with a built drain 6 inches wide and 8 inches deep beneath its floor, this drain apparently commencing near the socket-stone.

About 8 feet north from D, but lying approximately east and west, was another chamber, E, of somewhat oval form, and measuring 12 feet 9 inches long by 5 feet 6 inches in greatest width. E, probably communicating with D, and certainly with F, was too indefinitely marked to yield a satisfactory plan, and yet possessed some interesting features. Outside its east end, in the space between E and C, was the appearance of a vertical shaft 3 feet to 3 feet 3 inches in diameter and 4 feet to 5 feet deep, with a built drain, too small to represent a passage, 15 inches to 18 inches wide and 18 inches to 24 inches high, traversing its base towards the north. This small adit was also joined, midway in its length and nearly at right angles, by a slightly curved branch of similar width and height, emerging from the east end of Chamber E immediately above its floor, and 18 inches south from a partition across E, at that point 3 feet 6 inches wide, formed by an oblong slab 2 feet 6 inches high on one side, and part of a quern stone on the other (both of these stones being set on end) with a regular gap, 17 inches wide, left between. This enclosure at the south-east corner may probably be explained as a sink, at one time shut off by a wooden door across the opening. The back or south wall of Chamber E stood to a height of 6 feet 4 inches above the floor, and was covered by soil and loose stones to a further extent of nearly 6 feet, up to the foundations of an old cottage which once stood upon the summit of the knoll. In this back wall were as many as twelve boles, the four larger ranging in size from 11 to 15 inches in length by 6 to 9 inches in height, and recessed for 10 to

13 inches; the other eight boles were much smaller. At its west end was a shelf about 18 inches wide, and evidently below this had been an access 1 foot 6 inches wide and 2 feet 4 inches high from E into the larger Chamber F, which immediately adjoins on the north. It is interesting to note that upon this shelf, grouped together in a corner, were found no fewer than forty-one small pieces of abraded pumice, afterwards increased to forty-six from the riddlings, varying in size between that of a filbert and of a large walnut, many being worn as if by use.

Chamber F is situated on the north side of E and lying parallel with it, separated by a slender wall nowhere over 5 feet and for the most part only 2 feet in present height. Oblong as to general shape but with curved walls at the west and north, F measured about 14 feet in length by 9 feet 6 inches to 12 feet in width near its east and west ends respectively. It was paved throughout, except towards the west, where an outcrop of natural rock gradually rises to 12 or 18 inches above the normal floor-level. It had a curved drain running underneath the pavement from the edge of this rock, with its exit through the outer entrance into F, at its north-east corner. The depth of excavation to the floor of F was 8 feet from the surface at the north and 6 feet at the west, the wall in the latter position reaching almost exactly to the upper soil and still showing the remains of a clay cement or plaster upon several portions of its face. The fact that this boundary wall was a mere lining with a thickness of about 12 inches set against a solid mass of sand towards the west and north sufficiently proves the underground character of the structure to have been original, just as in the case of earth-house A, while sand could also be traced even beneath the foundations.

It was further evident from the peculiar intermixture of loose stones in very dense soil, together with occasional displaced layers of kitchen-midden ashes, that the whole upper portion of F, as elsewhere at Foshigarry, notably in C and D, had been already overhauled at some later period, presumably in search of building material, finds often occurring at levels obviously far removed from their natural position.

The west wall of F had two boles, and in each were shells of the limpet and periwinkle imbedded in sand. One bole also contained a cut-marked segment of deer-horn, together with a nearly complete disc of pottery ground to a diameter of 3 inches, and the other a small piece of bone apparently shaped for some purpose.

From the comparatively greater depth of F, as also of D and E, it might be considered that these three minor chambers were of earlier date than the adjoining chambers B and C, although here it seems impossible to reach any definite conclusion.

In addition to the access between E and F there was apparently another short passage, now very indistinctly marked, leading from the north-east corner of F into C. But certainly near this latter point was the exterior and main entrance to chamber F, commencing for 14 feet through a slightly curved subterranean gallery which runs approximately east and west in a total length of 42 feet, and then turns at right angles into a north and south passage of $4\frac{1}{2}$ feet. This short portion, with sand in its floor, was fully roofed and practically complete when excavated, measuring 18 to 21 inches wide but expanding to 2 feet 8 inches for 1 foot at its north end, with a height of 2 to 3 feet; it was reduced midway as to its southern half by a sill rising 12 inches.

The long underground gallery, marked H upon the accompanying plan, was clearly coeval with earth-house F, to which it supplied an outer access, although this cannot have been the sole purpose served, since the branch into F diverges at a point representing only one-third of its whole course.

The entrance into gallery H was on the west, situated about 10 feet above high-water mark at the innermost recess of a small creek on the north, and with its eastern extremity 4 or 5 feet below the foundations of a comparatively modern cottage which had been erected within the area of earth-house C. The whole gallery was roofed with slabs of stone, and although for 10 feet from the entrance only three of these, the first at a distance of 3 feet 6 inches within, retained their original positions, most of its covering-slabs still lay *in situ* throughout the remaining 30 feet, all beneath a layer of sand at a depth of 3 or 4 feet from the existing surface at the time of excavation.

With an outer opening only 16 inches wide and 22 inches high this gallery gradually expanded inwards to general dimensions of about 1 foot 8 inches to 2 feet 2 inches in width by 2 feet 10 inches to 3 feet in height; it was paved as to its first half, and indeed perhaps throughout. At 26 feet from the entrance, raised 14 inches above the floor, was an aperture on the north side measuring 15 inches wide by 20 inches high, probably for the admission of light and air; while at the inner extremity of the gallery, where five or six hammer-stones lay in a group, was another opening, but in this case from the floor-level, 1 foot 8 inches wide by 3 feet in height, covered by a single slab and leading into a northward recess, possibly once a passage, 4 feet long.

In the opposite or south wall of gallery H, 4 feet from its east end, stood a built oven or kiln measuring 2 feet in diameter and about the same in height, well above the floor, and with an outer ledge projecting 1 foot beyond its base. This oven contained a thick layer of peat ashes, and was furnished with an oblong shaft or vent measuring 16 by 10

inches and 7 feet in length, and sloping upwards in a south-westerly direction to within 1 foot of the surface, thus passing through the area of earth-house C. These facts would suggest that the oven, and perhaps also the recess or passage nearly opposite, belonged to a secondary construction. It may be of comparatively late origin, as in the case of the annexe G already described at the south-west corner of B.

DUN THOMAI DH.

A general and fairly accurate description of this island fort (*Dùn Tomi* of the Ordnance Map), together with its massive causeway leading from Morornish on the north, has already been given at pp. 212-213 (*Dun '73*) of the writer's *North Uist*. Situated in Vallay Sound and occupying the summit of a steep rocky islet, the base of its encircling main wall stands at almost exactly the level of the high-water mark at spring tides, while even the top of this wall is completely swept by exceptional tides, more especially in rough weather (Plate I.).

Under these circumstances Dun Thomaidh promised little reward to excavation. This task was nevertheless undertaken in the summer of 1914, and yielded a fortnight's interesting work with success as to tracing out the ground plan, although, as was anticipated, there were unearthed very few relics attributable to the former occupants.

The main fort was easily verified as measuring about 50 feet in diameter between the outer faces of its surrounding rampart. This latter nowhere remains in more than three or four courses, nor to a present height of over 2 feet 6 inches. Strangely enough, it is in the north-eastern and most sheltered quarter that the greatest dilapidation is found—a fact presumably to be explained by this having been the part chosen from which to remove building-stones for the construction of the farmhouse and steading on Vallay.

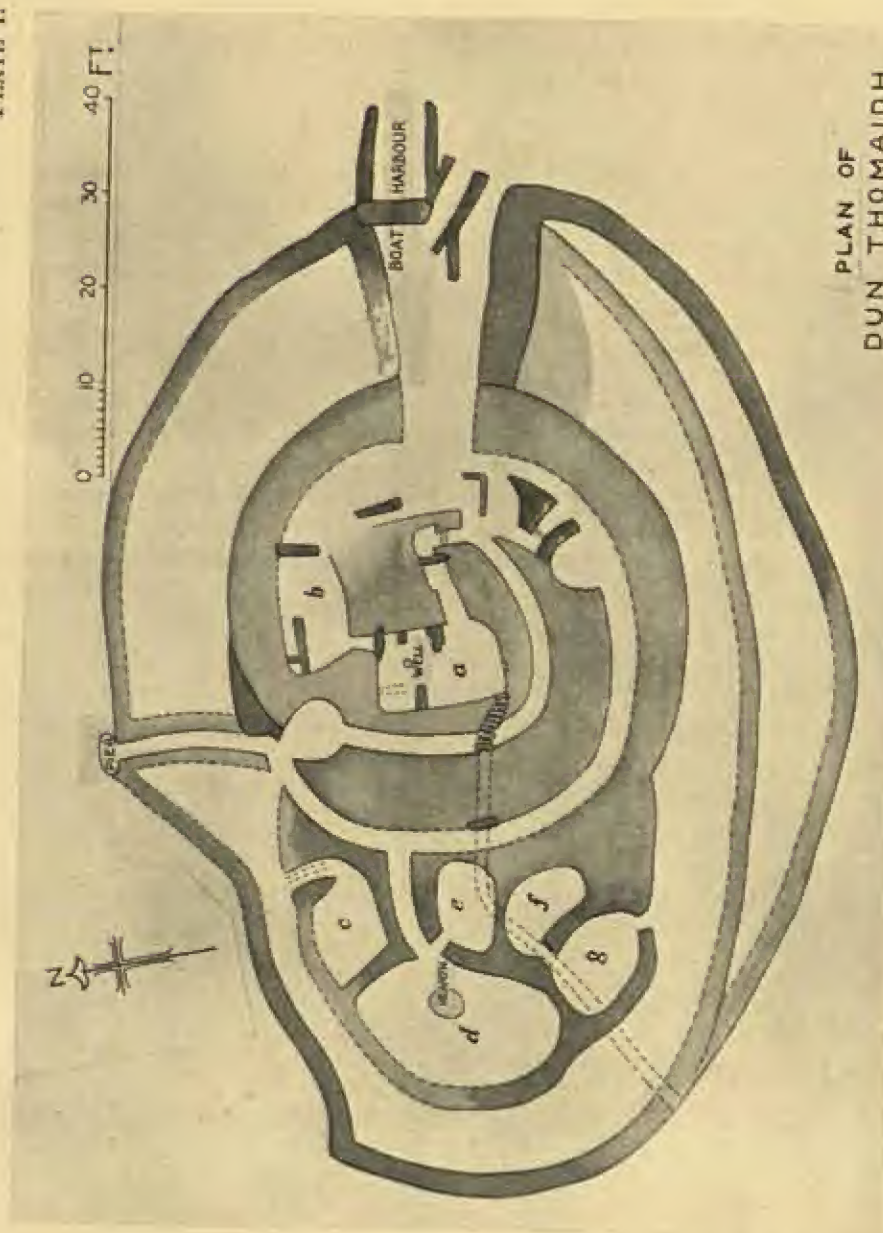
Dun Thomaidh was furnished with two quite separate outer accesses—one at the north, exactly opposite its causeway, and no doubt available by land or water according to the state of tide; and the other, by water only, through a well-defined boat-harbour situated at the centre of its eastern margin. Opportunity was taken to make a fuller examination of the causeway, which still remains in almost complete form, measuring $9\frac{1}{2}$ feet across near its middle, but reduced to a width of $7\frac{1}{2}$ feet at its regularly-squared south end, a gap of 13 feet there intervening between it and the islet. Facing the causeway, in the sea-wall still traceable as encircling the whole fort, is a pier or platform about 4 feet wide, built to a height of 2 feet 6 inches above the rock. Thence a slightly curved passage, 2 feet wide, leads southwards for 17 feet

to the main fort, reaching it at about 12 yards east from its western extremity.

Here the entrance divides into two branches, one of them, 2 feet to 2 feet 6 inches wide, following the exterior of the massive central structure for at least three-fourths of its whole circumference up to the south side of the boat-harbour on the mid-east. About 15 feet short of this point is a semicircular cell, measuring 7 feet by $5\frac{1}{2}$ feet, recessed within the main wall, its paved floor rising slightly towards the north. The other branch enters directly into the remains of a circular cell or guard-chamber 6 feet in diameter, from which a passage or ground gallery, with a varying width of 25 inches to 21 inches, runs at first south and then curves eastward, the solid main wall of the fort (in a very uniform thickness of 7 to 8 feet) intervening between it and the outer passage already described. Evidently these three approaches—the exterior (doubtless never roofed), the interior (certainly roofed), and that from the harbour—met at the doorway leading to the innermost chambers. This latter entrance was about 15 feet east of the boat-harbour, running northwards for 3 feet in a width of only 18 inches, and then passing through a small guard-room, from which it turned at right angles westward for 7 feet into Chamber *a*. One of the cover-slabs of this passage still remained in position.

Within the centre of the fort were found two chambers (marked *a* and *b* upon the accompanying plan), while it is highly probable that a third existed, east of *a* and south of *b*, in the segment now ruined beyond recognition. Chamber *a* was clearly defined as of somewhat rectangular shape, measuring $13\frac{1}{2}$ feet north and south by 9 feet east and west, with a paved floor and walls still traceable in complete outline to a height of 2 feet 3 inches to 2 feet 10 inches, the south wall containing a small bole. Its interior area was encroached upon by three short spurs of masonry (two at the east and one at the west), placed so as to form partial divisions. In the south-west corner of Chamber *a* was the exit of a roofed and well-built drain, which ran first in a westerly direction for 21 feet, thus traversing the whole wall of the main fort at the floor-level of the ground gallery, and then, in Chamber *c* of the annexe, turned rather abruptly to the south-west for other 30 feet, there emerging through the outer sea-wall. Within the north end of Chamber *a* were some evidences of a small spring or well, as also of a drain leading northwards. The floor was slightly raised in the north-east corner, at which point a passage barely 4 feet long and 20 inches wide (showing a cover-slab still in position at the height of 25 inches) formed an access into Chamber *b*. This second chamber, with its floor 9 inches higher than that of Chamber *a*, was likewise

PLATE I.



PLAN OF
DUN THOMAIDH

Plan of Dun Thomaidh, Valley Sound, North Uist.

rectangular in general shape, apparently measuring about 12 feet east and west by 6 feet to 7 feet north and south, although with much less distinctly marked walls, and these of slender proportions.

The boat-harbour at the mid-east exterior of Dun Thomaidh is comparatively large, and so massively built as to retain much of its original form. With a whole length of about 36 feet this harbour consists of two divisions—the upper, which passes through the main wall of the central fort, gradually widening eastward from 8 feet 8 inches to 11 feet, for the extent of 16 feet. At this point its northern half is barred by a wall 3 feet thick, below which lies an outer harbour $10\frac{1}{2}$ feet in length and 5 feet to 6 feet in width, at a level completely covered by the tide long before it reaches high-water. The southern half also continues outwards, but is there divided by an intervening wall into two separate and parallel channels, each of them 2 feet 6 inches to 3 feet wide and about 10 feet in length, presumably thus arranged for the transit of very narrow boats.

The main fort, as already stated, is almost circular, and measures about 50 feet in diameter. Immediately adjoining on the west is an annexe, which covered an area of about 26 feet by 35 feet, containing a group of five chambers or enclosures, and thus gave Dun Thomaidh total dimensions of 50 feet by 76 feet. Beyond this, again, at a distance varying from 3 feet to 12 feet on the north, 6 feet to 7 feet on the west, 10 feet to 15 feet on the south, and 13 feet to 18 feet on the east, the whole islet is encompassed by a sea-wall or breakwater 3 feet thick and now measuring about the same in height, all distinctly below high-water mark. There is also an intermediate sea-wall of similar proportions in a length of 84 feet from south-west to south-east, joining the outer breakwater opposite Chamber *g* and running thence to the south edge of the harbour.

With regard to the five chambers in the western annexe, four of these were somewhat oval in shape—the exception being that furthest north, Chamber *c*—with an outline more angular than rounded. The entrance into Chamber *c* was through a passage 6 feet long by 2 feet wide (with indications of a drain beneath its floor), leading out of the comparatively small open space left within the sea-wall on the north, at a point 12 feet west from the inner end of the causeway approach. In common with the whole annexe, the wall, here enclosing an interior of about 12 feet by 8 feet but hardly traceable at the north, remained in only one or two courses, and nowhere to a present height of more than 12 inches.

South of Chamber *c* were two others, *d* and *e*, *d* being the outermost and largest of all. This chamber measured 22 feet north and south by 13 feet east and west, while *e* measured only 9 feet by 6 feet. The

doorways into *d* and *e* were close together, at the end of a slightly curved passage, 12 feet long and 2 feet wide, which led westward into both chambers from the outer of the two concentric ground-galleries previously mentioned as encircling the main fort. Chamber *d* contained a hearth, measuring 3 feet 3 inches by 3 feet 7 inches, and may perhaps have served as a general kitchen for the entire settlement.

Still southward were the remaining Chambers *f*, measuring 10½ feet by 6 feet, and *g*, 11 feet by 9 feet. Chamber *f* was entered through *g*, and *g* from the interval left between the fort and its inner sea-wall in that direction. It may be added that the well-built drain, which emerges from Chamber *a* of the central fort, takes its south-westerly curve in Chamber *e* of the annexe, and thence traverses Chambers *f* and *g*, in each case passing underneath the floor.

No doubt all the seven chambers—*a* to *g*—recorded in Dun Thomaidh were originally roofed, but even in those of smaller dimensions (apart from Chamber *d*, measuring 22 feet by 13 feet) it seems impossible that this could be effected otherwise than by the aid of wooden beams, however difficult to obtain.

It is evident that the entire site—including the harbour, passages, and ground-galleries, the seven chambers, and even the spaces within the sea-walls—had been paved with small flat stones, although equal pains were not taken throughout, especially as to the floors of Chambers *e* and *f* in the annexe.

Comparatively few in number, the objects found during the course of excavation at Dun Thomaidh are not without interest. These comprise—in stone, twenty-two flaked flints, ten hammer-stones, a stone pounder, part of a hone, a small polishing-stone, two nodules of pumice, four socket-stones, portions of one round quern and of two saddle-querns, and a stone with some appearance of having been used as an anchor; in horn and bone, a small tine shaped and hollowed out, and two shaped segments of bone, one of them perhaps representing a chisel adapted for use at both ends, and the other the handle of a tool; also thirteen small pieces of iron (chiefly broken rivets), a bronze needle broken at its eye, three pieces of patterned pottery, and a very few plain fragments.

The finest specimen of all is a neat and well-finished polishing-stone, 1½ inch long by ½ inch in width, which was found immediately outside the south wall of the main fort, together with at least 5 flints, eight bits of iron, and numerous kitchen-midden remains, such as limpet and periwinkle shells, pottery, bones, and ashes, for the most part lodged in crevices of the paved floor extending between the central

fort and its sea-wall, as if that had been a chosen spot for the deposit of rubbish.

The bone handle above mentioned lay near the floor of Chamber *a*, where also was some quantity of a substance closely resembling infused tea-leaves, though no doubt simply the residuum of several decomposed peats. Within the small cell at the bend of the passage leading into Chamber *a* were a stone pounder, a flint, and some ashes.

Chamber *d* contained many ashes upon and around its hearth, and also three flints, a good hammer-stone, and a piece of pumice.

The shaped tine was found near the floor of Chamber *f*, with broken pottery and a few bones.

In Chamber *g* were five flints and a large hammer-stone.

There almost certainly had been a third interior chamber within the main fort to the east of Chamber *a*. Excavation was here made to a depth of about 3 feet through loose stones and earth, revealing a hammer-stone, a fragment of patterned pottery, and ashes; but the only structural evidence consisted of a slight wall towards the east.

Out of the fourteen forts now recorded in the north-west corner of North Uist, Dun Thomaidd alone can be suggested as belonging to the semi-broch type of structure (*Coll and Tiree*, pp. 73-4, 161)—that is, as of massive circular form, with double concentric walls and an intervening passage or ground gallery more or less continuous, but without any indication of either a stair or upper galleries, and therefore apparently never having reached beyond a single storey. It is, of course, possible that some of the other sixty forts situated elsewhere throughout North Uist may come into the same class, but this point could only be determined by thorough excavation, which is in most cases hardly practicable owing to remoteness of locality, even apart from the generally poor promise of results.

NOTES ON THE STRUCTURES AND THE RELICS FOUND IN THEM. By J. GRAHAM CALLANDER.

In his description of the group of earth-houses at Foshigarry Mr Beveridge has incidentally remarked on the most notable of the relics found there, and to his report on the structures at Dun Thomaidd he has appended a complete list of the objects recovered from that site. The relics from Foshigarry, presented to the National Museum, are displayed with objects from other sites under the title of The Erskine Beveridge Collection, but it does not contain the whole of the relics found, as Mr Beveridge brought to his Dunfermline residence only

the most important of his finds, leaving generally the least interesting, consisting of duplicate specimens of common types and imperfect examples of well-represented classes, at his house in Vallay, many of which afterwards were given to friends.

Nine hundred and fifty objects were found at Foshigarry, but more than half of them were small fragments of pottery, bones showing only cut marks, and rude implements of stone such as hammer-stones and pot-lids. The number of specimens given to the Museum was rather less than half found, and these I propose to describe, at the same time stating the total numbers of each class found as detailed in Mr Beveridge's list. Where stated in his notes, the chambers in which the different objects were found are mentioned in this report.

OBJECTS OF STONE.

Stone axe, imperfect at the butt end, measuring $3\frac{5}{16}$ inches in present length, $2\frac{1}{8}$ inches in breadth, and $1\frac{1}{4}$ inch in thickness, with the cutting edge reground. Found in Chamber C.

Twenty-seven hammer-stones and pounders, formed from rounded and elongated water-worn pebbles of quartzite and other kinds of stone, almost invariably abraded at both ends by use, varying from $2\frac{1}{2}$ inches to $5\frac{1}{2}$ inches in length. Only one bears picked marks in the centre of opposite sides to improve the grip, and one is smoothed along one side by having been used as a rubbing- or whet-stone. The total number found was eighty.

Hammer-stone fashioned from the core splinter of an oval pebble of white quartz, measuring $3\frac{7}{8}$ inches long.

Pebble of grey schist roughly chipped into hog-backed form, measuring $3\frac{1}{2}$ inches long, $1\frac{3}{4}$ inch broad, and $1\frac{1}{4}$ inch high.

Three whetstones, one, shaped like a rude stone axe, measuring $4\frac{1}{16}$ inches long, $1\frac{3}{8}$ inch broad, and $1\frac{1}{16}$ inch thick, with the top and bottom edges worn by rubbing; another of sub-oval form, measuring $2\frac{5}{8}$ inches long, $1\frac{7}{16}$ inch broad, and $\frac{3}{8}$ inch thick, ground on one edge and at the ends; and the third of rectangular shape, measuring $3\frac{1}{4}$ inches long, $1\frac{3}{8}$ inch broad, and $\frac{3}{8}$ inch thick. Seven of these were found.

Four polishers or smoothing-stones formed from water-worn pebbles, varying from $1\frac{9}{16}$ inch to $2\frac{1}{8}$ inches in greatest length; two show ground facets, one is worked from both faces to form an obtuse ridge or arris at one end, and the other two have parts of their surface highly polished. The one with the ridge may have been used for smoothing fabrics.

Flattened oval pebble of grey quartzite, measuring $2\frac{1}{16}$ inches in greatest diameter, polished and blackened on one face.

Oblong sharpening-stone of slate, measuring $7\frac{1}{2}$ inches long, $2\frac{1}{2}$ inches broad, and $\frac{3}{8}$ inch thick, worn slightly hollow on one face, ground along one edge, and showing a shallow, circular depression, $\frac{1}{2}$ inch in diameter, worked near one end on the opposite face. Twenty polishing- and sharpening-stones in all were recovered.

Two strike-a-lights, one formed from an oval pebble of cream-coloured quartzite, measuring $2\frac{5}{8}$ inches long, $2\frac{3}{8}$ inches broad, and 1 inch thick, with an oblique groove on each face containing streaks of brown colour (oxide of iron), and the other of similar shape, of grey quartzite, measuring $2\frac{7}{8}$ inches long, 2 inches broad, and $1\frac{1}{2}$ inch thick, the ends abraded by use as a hammer-stone. Three in all were found in Chambers B (?) and C.

Four flattened oval pebbles of quartz and quartzite, probably strike-a-lights, varying from $2\frac{3}{8}$ inches to 3 inches in greatest diameter, showing brown streaks of oxide of iron on the faces. Found in Chambers B (?) and C.

Strike-a-light (?) formed from a nearly circular, flattened pebble, measuring $2\frac{1}{2}$ inches, 2 inches in cross diameter, and $\frac{3}{4}$ inch thick, with a broad, oblique, shallow hollow on one face.

Two stone whorls, one of coarse white sandstone, measuring $1\frac{1}{2}$ inch in diameter and $\frac{5}{8}$ inch in thickness, and the other, which is slightly imperfect, $1\frac{1}{8}$ inch by $\frac{5}{8}$ inch. In both the hole is countersunk from both sides (fig. 7, Nos. 4 and 5). Three in all were found.

Flattened spheroidal stone, measuring $1\frac{1}{2}$ inch in diameter and $1\frac{1}{8}$ inch in thickness, and a thin disc, measuring $1\frac{1}{8}$ inch by $\frac{5}{8}$ inch, both unperforate and probably whorls in the making (fig. 7, Nos. 6 and 7).

Half of a large ring of stone, measuring $4\frac{1}{8}$ inches in diameter and $2\frac{1}{2}$ inches by 2 inches in section, the perforation being $1\frac{1}{4}$ inch in diameter.

Socket-stone of gneiss, measuring $7\frac{1}{2}$ inches long, $6\frac{5}{8}$ inches broad, and $2\frac{3}{8}$ inches thick. Found in Chamber D, other two being found, one in Chamber A and the other in Chamber C.

Oval, discoidal piece of schist, measuring $3\frac{1}{2}$ inches and $2\frac{1}{2}$ inches in cross diameters, and $\frac{9}{16}$ inch thick, with a broad, flattened projection on one face simulating the stopper of a vessel, but perhaps weathered into this shape. Found beside a large, irregular cylinder of cetacean bone with hollows at both ends, one of which it fitted, in Chamber B.

Forty-six pieces of pumice stone, usually rounded, and occasionally showing signs of use as rubbers, varying from $\frac{1}{16}$ inch to $1\frac{1}{8}$ inch in greatest length. Forty-one pieces were found together in a corner of a shelf in the back wall of Chamber E.

In addition the following relics were retained at Vallay House:—

Three pieces of flint. Found in Chambers B and C.

Twenty pot-lids in the form of thin, flat, rounded discs of mica-schist,



Fig. 7. Whorls of Stone, Clay, and Cetacean Bone from Foshigarry.

measuring from 4 inches to 9 inches in diameter and $\frac{1}{4}$ inch in thickness. Found in Chambers A, B, C, and D.

Two flat, squared pieces of mica-schist, measuring 5 inches by $6\frac{1}{2}$ inches, and $6\frac{1}{2}$ inches square, with a thickness of $\frac{1}{4}$ inch.

Two unornamented balls of mica-schist, measuring 2 inches and 3 inches in diameter. Found in Chamber F.

Two portions of saddle querns. Found in Chamber C.

Five portions of rotatory querns. Found in Chambers A, C, and E.

OBJECTS OF METAL.

Bronze pin with one end bent round in a circle, in the same plane as the stem, to form a ring-head, measuring $2\frac{3}{8}$ inches in length (fig. 8, No. 1).

Part of a stout bronze plate with one circular end, and a projection, with a perforation in it, at right angles at the other end, which is now



Fig. 8. Objects of Bronze, Clay, and Cetacean Bone from Foshigarry. (1.)

folded back across the plate; in its crushed condition it measures $1\frac{1}{8}$ inch long, $\frac{7}{16}$ inch broad, and $\frac{1}{16}$ inch thick (fig. 8, No. 2).

Three lumps of iron slag. A total of nineteen pieces were found, all in Chamber B. Rounded flat mass of iron, measuring 7 inches by 6 inches by $3\frac{1}{2}$ inches, probably from a bloomery.

Part of an iron knife, clasped between two haft-plates of bone of plano-convex section measuring $3\frac{1}{8}$ inches long and $\frac{1}{16}$ inch thick, showing three iron rivets. On one side of the haft is a single incised dot and circle (fig. 9, No. 1)—from Chamber B.

Fragment of an iron knife, retaining the two haft-plates of bone or horn measuring $1\frac{3}{8}$ inch and $1\frac{1}{2}$ inch long, and riveted with two iron rivets (fig. 9, No. 2).



Fig. 9. Bone and Iron Objects from Foshigarry.

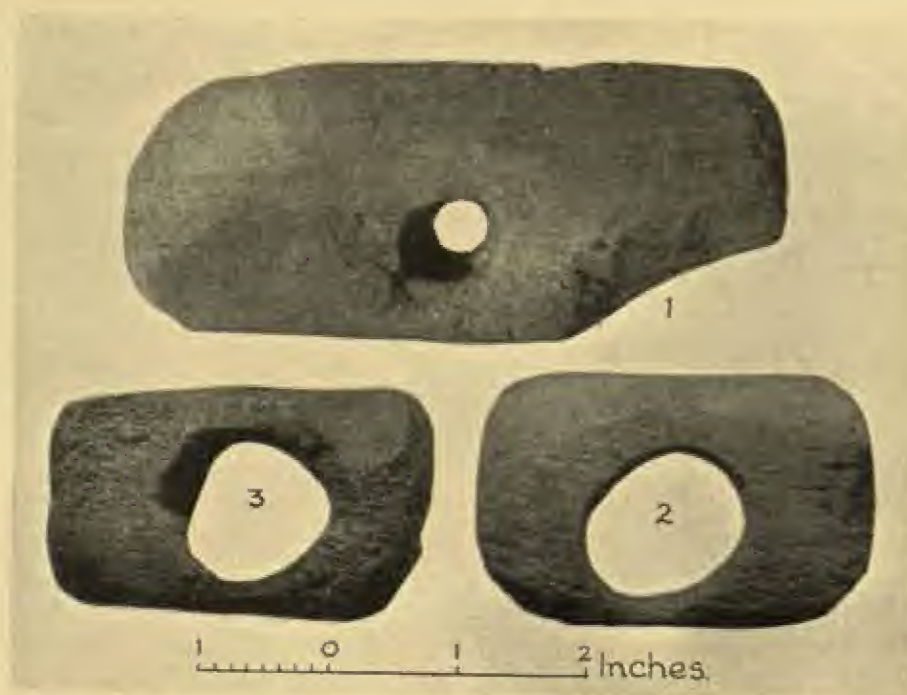


Fig. 10. Hammers of Cetacean Bone from Foshigarry.

OBJECTS OF BONE AND DEER-HORN.¹

Three hammer-heads of cetacean bone (fig. 10). One is of irregular shape, measuring 5 inches long, $2\frac{1}{2}$ inches broad, and $1\frac{1}{2}$ inch thick, with the hole, tapering from one side, placed eccentrically; another of oblong shape, measuring $2\frac{1}{2}$ inches long, $1\frac{1}{2}$ inch broad, and $\frac{1}{2}$ inch

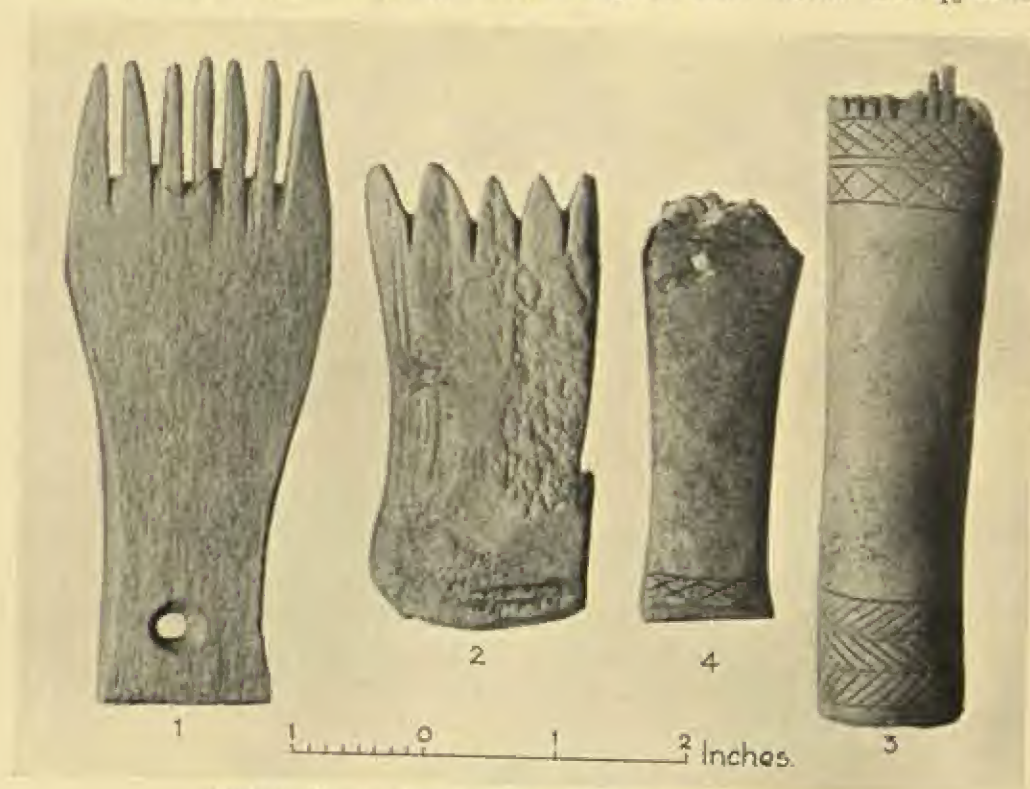


Fig. 11. Weaving Combs of Cetacean Bone from Foshigarry.

thick, the circular hole for the handle being placed eccentrically; and the third of oblong shape and slightly curved longitudinally, measuring $2\frac{1}{2}$ inches long, $1\frac{1}{2}$ inch broad, and $1\frac{1}{2}$ inch thick, with an oval perforation in the centre. Half of another which is not in the Museum was also found.

Four long-handled weaving combs of cetacean bone (fig. 11): the first in perfect condition, with seven teeth, and a small perforation near the butt end, measures $4\frac{1}{2}$ inches in length and $1\frac{1}{2}$ inch in greatest

¹ Articles made of cetacean bone are mentioned as such, those of other mammalian bone simply as made of bone.

breadth; the second, also perfect, with five short teeth, measures $3\frac{7}{8}$ inches in length and $1\frac{3}{4}$ inch in greatest breadth; the third, with eleven or twelve teeth, all broken off, now measures 5 inches in length and $1\frac{5}{8}$ inch in greatest breadth, the rounded side of the handle bear-

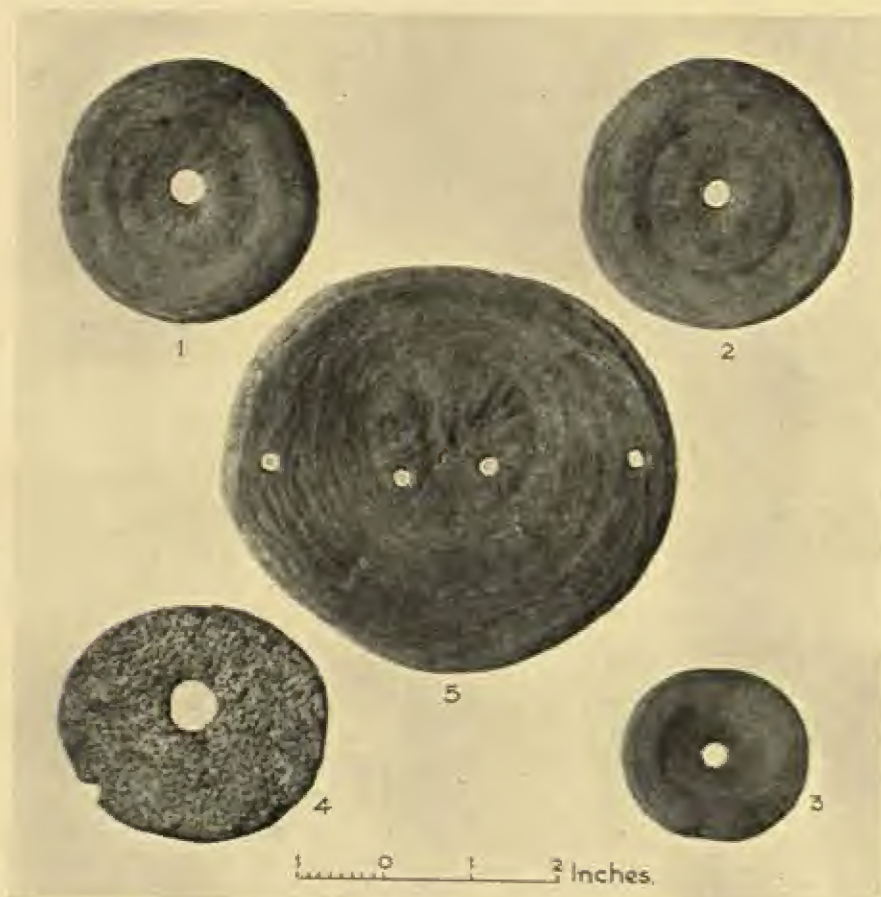


Fig. 12. Whorls and Pierced Disc of Cetacean Bone from Foshigarry.

ing two transverse bands of lattice design, of different sizes, at the base of the teeth, and three transverse bands of oblique straight lines sloping in different directions alternately at the butt end; and the fourth, with all the teeth broken off so that they cannot be counted, now measures $3\frac{1}{4}$ inches in length and $1\frac{1}{2}$ inch in greatest breadth, the rounded side of the handle being decorated with a band of lattice designs at each end. The first was found in Chamber A, the second and third in C, and the fourth in B.



Fig. 13. Objects of Cetacean and other Bone, encircled by grooves worn by friction, from Foshigarry.

Three whorls made from intervertebral plates of cetacean bone, measuring $3\frac{1}{8}$ inches by $\frac{1}{4}$ inch, 3 inches by $\frac{1}{4}$ inch, and $2\frac{1}{8}$ inches by $\frac{5}{16}$ inch, in diameter and thickness, centrally perforated (fig. 12, Nos. 1 to 3).

Whorl of cetacean bone, measuring $3\frac{1}{8}$ inches by $2\frac{3}{4}$ inches in cross diameters, and $\frac{5}{16}$ inch in thickness (fig. 12, No. 4).



Fig. 14. Pointed Tools of Bone from Foshigarry.

Whorl of cetacean bone of flattened spheroidal form, with five deep concentric grooves round the perforation on the top, measuring $1\frac{1}{8}$ inch in diameter and $\frac{3}{4}$ inch in thickness (fig. 7, No. 1).

Whorl made from the joint of a cetacean bone, domical above and flat below, measuring $1\frac{9}{16}$ inch in diameter and $\frac{3}{4}$ inch in thickness (fig. 7, No. 2).

Whorl of cetacean bone, measuring $1\frac{3}{8}$ inch in diameter and $\frac{3}{8}$ inch in thickness (fig. 7, No. 3).

Intervertebral plate of cetacean bone, measuring $3\frac{5}{16}$ inches in diameter and $\frac{11}{16}$ inch in thickness, with a central perforation and one smaller between it and one side; there was probably another on the opposite side, but this part is broken off.

Intervertebral plate of cetacean bone, measuring $5\frac{5}{16}$ inches by



Fig. 15. Perforated Implements of Deer-horn from Foshigarry.

$4\frac{5}{8}$ inches in cross diameters and $\frac{1}{2}$ inch in thickness, with four perforations following the larger medial line of the object (fig. 12, No. 5).

Ten cylindrical objects encircled with one or more broad, oblique grooves worn by friction, imperfect examples being broken across at the hollow part (fig. 13, Nos 1 to 10), measuring $4\frac{5}{16}$ inches in length by $1\frac{11}{16}$ inch in diameter, imperfect; $4\frac{3}{4}$ inches by $\frac{1}{4}$ inch, imperfect; $1\frac{1}{2}$ inch by $\frac{1}{16}$ inch, broken across a groove at both ends; 3 inches by $\frac{1}{16}$ inch, imperfect, and $2\frac{3}{8}$ inches by $\frac{3}{8}$ inch—all of cetacean bone, the shaft more or less whittled down. The others, which consist of other mammalian bones, measure $5\frac{5}{16}$ inches long by $\frac{1}{2}$ inch in diameter at

the centre, complete; $4\frac{1}{2}$ inches by $\frac{7}{16}$ inch, complete, with two distinct grooves; $3\frac{1}{2}$ inches by $\frac{9}{16}$ inch, complete; $3\frac{1}{2}$ inches by $\frac{7}{16}$ inch, imperfect; and $3\frac{3}{4}$ inches by $\frac{9}{16}$ inch, imperfect.

Three pointed tools formed from the ulna of a sheep or deer, measuring $8\frac{3}{4}$ inches, $5\frac{3}{4}$ inches, and $4\frac{9}{16}$ inches long, the first having a rather blunt oval point, the second a broader point, and the third a straight tapering point (fig. 14).

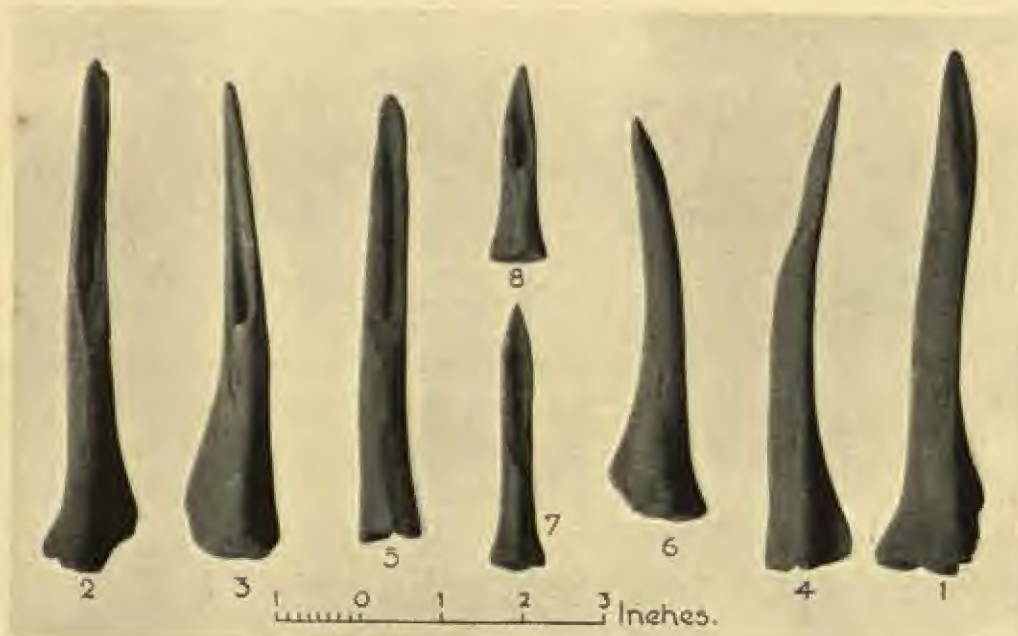


Fig. 16. Socketed Bone Spear-heads(?) from Foshigarry.

Three segments of deer-horn, measuring $3\frac{1}{2}$ inches, $5\frac{1}{8}$ inches, and $4\frac{1}{8}$ inches in length, rudely fashioned, with a perforation near one end, resembling the arrow-straighteners used by some North American Indians (fig. 15).

Eight spear-heads(?) formed from the tibia of a sheep or deer, the shafts of the bones sliced down on one side to form points of varying degrees of length and sharpness, and a longitudinal hole drilled in the joint end for a socket, measuring $6\frac{1}{2}$ inches, $6\frac{1}{4}$ inches, 6 inches, $5\frac{1}{8}$ inches, $5\frac{1}{2}$ inches, 5 inches, $3\frac{1}{4}$ inches, and $2\frac{7}{16}$ inches in length (fig. 16, Nos. 1 to 8).

Bone harpoon or fish-spear with a barbed point and a socket bored in the opposite end, nicely dressed and measuring $4\frac{1}{2}$ inches long (fig. 17), from C.

Bone borer, curved, measuring $7\frac{1}{2}$ inches long.

Four bone borers measuring $1\frac{1}{2}$ inch, $2\frac{1}{8}$ inches, $2\frac{7}{8}$ inches, and $3\frac{5}{8}$ inches long.



Fig. 17. Harpoon of Bone from Foshigarry. (†.)

Three awls or borers of cetacean bone, measuring $4\frac{1}{4}$ inches, $3\frac{3}{8}$ inches, and $2\frac{1}{4}$ inches long (fig. 22, Nos. 1 and 2).

Twenty-three awls made from thin splinters of bone, chiefly ribs, with long sharp points and broad irregularly cut stems, and eight formed from ends of leg bones of sheep, varying from $2\frac{1}{8}$ inches to $4\frac{7}{8}$ inches in length (fig. 18).

Seven bone pins with ornamental heads (fig. 19, Nos. 1 to 7)—one with a flat spatulate head showing three nicks on each edge and incised transverse lines connecting these notches, measuring $2\frac{11}{16}$ inches long; one with a crutch-shaped head, $1\frac{11}{16}$ inch long; one with a baluster-shaped head, $1\frac{31}{32}$ inch long; one with a globular head, $2\frac{9}{16}$ inches long; and three with the head in the form of an inverted truncated cone, one bearing a dot surrounded by two concentric circles on the top, $2\frac{2}{3}$ inches, $2\frac{11}{16}$ inches, and $2\frac{1}{4}$ inches long.

Pin, measuring $4\frac{1}{2}$ inches long, made from a slender leg bone of a bird (fig. 19, No. 8).

Pin, measuring $3\frac{1}{8}$ inches long, made of a bone with the joint remaining (fig. 19, No. 9).

Five pins made of splinters of bone whittled down, without heads, measuring $2\frac{3}{8}$ inches, $2\frac{5}{8}$ inches, $2\frac{7}{8}$ inches, $2\frac{3}{4}$ inches, and $2\frac{1}{8}$ inches in length (fig. 19, Nos. 10 and 11, and 13 to 15).

Ten needles of bone, one broken across the eye, measuring 2 inches, $2\frac{5}{8}$ inches, $3\frac{5}{8}$ inches, $3\frac{11}{16}$ inches, $3\frac{1}{2}$ inches, $3\frac{7}{8}$ inches, $3\frac{1}{4}$ inches, $3\frac{1}{2}$ inches, $2\frac{7}{8}$ inches, and $2\frac{1}{2}$ inches in length (fig. 19, Nos. 16 to 24).

Fifteen handles of deer-horn with sockets of varying sizes in one end, measuring from $2\frac{1}{2}$ inches to $12\frac{1}{8}$ inches in length, one of the smallest (No. 3) having a small rivet hole in one side near the socketed end (fig. 20, Nos. 1 to 9).

Curved handle made from the tine of a deer-horn, carefully whittled down, measuring $4\frac{3}{4}$ inches long; there is a small socket in the broad end showing a slit cut across it to a depth of $\frac{1}{4}$ inch, and it is ornamented on each side with a single dot within two concentric circles.

Handle of deer-horn of hollow cylindrical shape, the surface carefully cut down, measuring $2\frac{1}{4}$ inches long; it is ornamented with a dot



Fig. 18. Bone Awls from Foshigarry.

and double concentric circles on one side, and two similar markings on the other.

Four handles of deer-horn pierced for their whole length, and half of another split lengthwise, measuring from $1\frac{1}{8}$ inch to $3\frac{5}{8}$ inches in length; one is notched transversely on the exterior (fig. 20, No 12).

Part of a handle of cetacean bone of semicircular section, showing two rivet holes, measuring $1\frac{5}{8}$ inch long and $1\frac{1}{2}$ inch broad.

Curved handle of deer-horn of hollow cylindrical shape, measuring

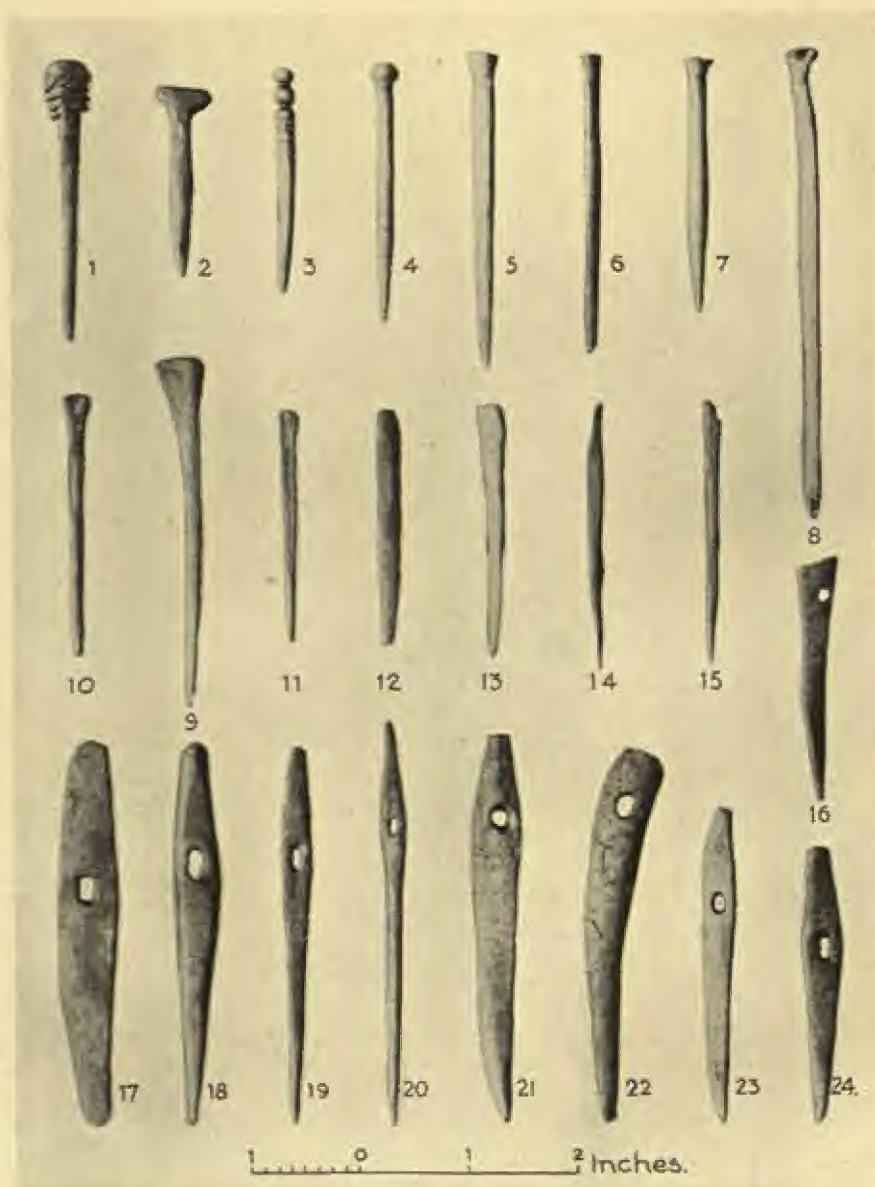


Fig. 19. Bone Pins and Needles from Foshigarry.

$6\frac{1}{8}$ inches long, sawn off square at one end and cut obliquely at the other (fig. 20, No. 10).

Handle of deer-horn of hollow cylindrical shape, the perforation tapering from one end to the other, measuring $1\frac{1}{8}$ inch long (fig. 20, No. 11).

Handle formed of a half of a metatarsal bone of a sheep, measuring $2\frac{1}{2}$ inches long.



Fig. 20. Handles of Deer-horn from Foshigarry.

Half of a turned handle of deer-horn, of varying diameters, split lengthwise, measuring $2\frac{1}{2}$ inches long (fig. 9, No. 4).

Carefully made bone handle, measuring $3\frac{1}{2}$ inches in length and $\frac{1}{2}$ inch in diameter, with a large oval socket at one end, half of which is split off lengthwise (fig. 9, No. 3).

Segment of a bone of a large bird, measuring $5\frac{1}{2}$ inches in length, carefully cut across the ends (fig. 9, No. 5).

Fourteen handle-like objects of cetacean bone, usually of approximately rectangular section and narrowing towards the butt end, but every one broken across the other end, measuring from $1\frac{1}{8}$ inch to $5\frac{7}{8}$ inches in length, generally from $\frac{1}{8}$ inch to 1 inch in greatest breadth, and from $\frac{1}{4}$ inch to $\frac{7}{16}$ inch in thickness; one still shows the

shoulders of what seems to have been a spatulate blade, and two have two transverse grooves on one edge.

Three deer-horn picks made from part of the beam and brow tine of an antler, the beam part used as the haft measuring $8\frac{1}{2}$ inches, $7\frac{5}{16}$ inches, and $6\frac{1}{2}$ inches in length (fig. 21, Nos. 1 to 3).



Fig. 21. Picks and other Objects of Deer-horn from Foshigarry.

Twenty-three segments of beams and tines of red-deer antlers of varying sizes, usually made by partially sawing through the horn and then breaking it off, a very few being completely sawn through; ten of the tines have been dressed to a blunt point by paring (fig. 21, Nos. 4 to 12).

Thin cylindrical object of bone of regular thickness, rounded at one end and broken across the other, very finely made, measuring $1\frac{1}{8}$ inch in length and $\frac{3}{16}$ inch in diameter.

Splinter of bone whittled on the outside at one end, measuring $4\frac{1}{2}$ inches long.

Splinter of bone rounded at one end, measuring $2\frac{1}{3}$ inches long.

Object of bone smoothed at one end, and another with a blunt rounded point, measuring $5\frac{3}{8}$ inches and $3\frac{1}{8}$ inches in length.

Bone implement made from a rough splinter with spatulate end and rounded shank, measuring $3\frac{1}{8}$ inches long (fig. 22, No. 4).

Bone implement with a curved spatulate end, measuring $4\frac{9}{16}$ inches in length (fig. 22, No. 10).

Carefully-made, narrow, thin, bone implement with chisel-shaped ends, measuring $4\frac{1}{4}$ inches long (fig. 22, No. 9).

Bone chisel, roughly made, measuring $3\frac{1}{2}$ inches long—from C (fig. 22, No. 5).

Bone implement, gouge-shaped at one end and obliquely pointed at the other, measuring $2\frac{1}{8}$ inches long (fig. 22, No. 8).

Implement made from part of a rib bone, cut across the butt, with the other end split longitudinally and pointed and worn by rubbing, measuring $5\frac{3}{8}$ inches long (fig. 22, No. 3).

Bone implement, one end bifurcated and the other formed like a lance blade, measuring $3\frac{1}{8}$ inches long (fig. 22, No. 6).

Roughly-shaped, narrow, thin piece of bone, with a deep slit at one end, measuring $3\frac{1}{8}$ inches long (fig. 22, No. 7).

Curved strip from the beam of an antler, cut flat on the under side and measuring $7\frac{1}{8}$ inches long and $\frac{1}{8}$ inch broad.

Strip of deer-horn, measuring $3\frac{9}{16}$ inches long, $\frac{9}{16}$ inch broad, and $\frac{1}{4}$ inch thick, with three perforations centrally placed, bevelled at one end and broken through a perforation at the other.

Strip of bone with edges on one side bevelled, measuring $6\frac{5}{16}$ inches long, $\frac{9}{16}$ inch broad, and $\frac{1}{4}$ inch thick, with a perforation in the centre, another at one end, and two at the other, broken across the end perforations.

Part of a rib bone, with cut marks and a shallow hollow worked on one edge, measuring $5\frac{1}{8}$ inches long.

Eleven pieces of ribs and other bones showing cuts.

Pin head of cetacean bone, of domical shape, and showing a square tapering socket on the flat under side, measuring $1\frac{9}{16}$ inch in diameter and $1\frac{1}{8}$ inch in height (fig. 8, No. 4).

Flattened spheroidal pin head of cetacean bone, measuring $1\frac{3}{8}$ inch in diameter and 1 inch in height, on the under side being a groove cut diametrically with a small circular perforation in the centre for the stem of the pin, and near the top a small transverse perforation (fig. 8, No. 3)—from B.

Oblong block of cetacean bone, with rounded corners above and flat below, measuring $2\frac{1}{8}$ inches long, $1\frac{1}{4}$ inch high, and $1\frac{1}{8}$ inch broad—from B.

Block of cetacean bone, of lenticular section, measuring $2\frac{5}{8}$ inches long, 2 inches high, and $1\frac{1}{8}$ inch broad.



Fig. 22. Miscellaneous Bone Implements from Foshigarry.

Bone die of oblong shape with a large longitudinal perforation, the sides having each of the numbers 3, 4, 5, and 6 indicated by a dot and

double concentric circle design, measuring $1\frac{5}{16}$ inch long, $\frac{5}{16}$ inch broad, and $\frac{3}{4}$ inch thick (fig. 6)—from C.

Small-toothed comb of bone, measuring $2\frac{5}{16}$ inches long and $\frac{1}{16}$ inch broad, made from four transverse plates, clasped between two longitudinal central plates profusely decorated with dot and circle designs and riveted with three iron rivets; the outer edges of the end transverse plates extend beyond the clasping plates and show a small perforation between two notches (fig. 5). Found on stepped end of radial wall No. 4 in C.

Imperfect small-toothed comb of similar build, measuring $2\frac{1}{2}$ inches long, with only six teeth remaining on one side, ornamented with dot and circle designs and clasped with two iron rivets—from B.

Eight large implements or weapons of cetacean bone.

Seven large flat implements or weapons of cetacean bone showing the natural surface on one side and pared down on the other, the point rounded and rubbed down on the inside, consisting of a club-like weapon made from a rib split for the greater part of its length with an oblique point, measuring $23\frac{1}{2}$ inches in length, $3\frac{1}{2}$ inches in greatest breadth, and $\frac{3}{4}$ inch in thickness (fig. 3, No. 1); a similar weapon, measuring 21 inches in length, $3\frac{1}{2}$ inches in greatest breadth, and $\frac{1}{2}$ inch in thickness, only it is split for its whole length and has two deep notches on either edge of the butt end opposite each other (fig. 3, No. 2); two crescentic objects cut obliquely across the butt end, measuring $18\frac{1}{2}$ inches in length, $3\frac{1}{2}$ inches in breadth, and $\frac{1}{2}$ inch in thickness, and $17\frac{1}{2}$ inches by $3\frac{1}{2}$ inches by 1 inch; another of similar shape, but the rounded end imperfect, measuring 16 inches in length, $2\frac{1}{2}$ inches in breadth, and $\frac{1}{4}$ inch in thickness (fig. 3, Nos. 3 to 5); two flat curved implements, more acutely pointed than the previous examples, measuring $12\frac{1}{2}$ inches in length, $2\frac{1}{8}$ inches in breadth, and $\frac{1}{2}$ inch in length, and $12\frac{1}{4}$ inches long by $2\frac{1}{8}$ inches broad by 1 inch thick, both with three deep notches on both edges opposite each other near the butt end (fig. 2, Nos. 2 and 3).

Pointed implement of cetacean bone of sub-triangular section, pared down on the under side and much worn by rubbing at the point, with two large notches on either side of the butt, measuring $10\frac{1}{2}$ inches in length, $2\frac{7}{16}$ inches in breadth, and $1\frac{5}{16}$ inch in thickness (fig. 2, No. 4).

Fifteen objects formed of plates of cetacean bone, cut down on the under side, and generally showing one end of that face ground down—one with three and eleven with two deep notches on opposite edges near the other end, and three with portions of the notched part broken off—measuring from $6\frac{1}{2}$ inches to $12\frac{1}{8}$ inches in length, from $2\frac{9}{16}$ inches

to $4\frac{5}{8}$ inches in breadth, and from $\frac{1}{2}$ inch to $\frac{3}{4}$ inch in thickness (fig. 2, No. 1, and fig. 1, Nos. 1 to 12).

Oval disc of cetacean bone, pared down on the under side and carefully dressed round the edges, with two notches on one edge and probably originally three on the other, measuring $5\frac{1}{16}$ inches and $3\frac{1}{2}$ inches in cross-diameters.

Oblong object of cetacean bone rounded at one end, measuring $7\frac{1}{2}$ inches long and $5\frac{5}{8}$ inches broad; and another with the rounded end sharpened by rubbing, measuring $10\frac{1}{16}$ inches by $3\frac{1}{4}$ inches.

Four rudely-shaped flat plates of cetacean bone, one square at one end and rounded at the other, and three of rectangular shape, measuring $5\frac{5}{8}$ inches by $5\frac{1}{2}$ inches, $6\frac{3}{4}$ inches by $5\frac{1}{16}$ inches, and $5\frac{5}{8}$ inches by $3\frac{3}{8}$ inches.

Flat pointed implement of cetacean bone, measuring $6\frac{5}{16}$ inches in length and $1\frac{7}{8}$ inch in breadth, the under side of the pointed end worn by rubbing and notched on the edges.

Part of an object made from a plate of cetacean bone of triangular shape, with two broad deep notches on its straight unbroken side, measuring $7\frac{1}{16}$ inches in length, and $1\frac{3}{4}$ inch in breadth at the widest part—from A 3.

Thin, fan-shaped, flat plate of cetacean bone with a perforation near the apex, counter-sunk from both faces, the sides measuring $8\frac{7}{16}$ inches and $7\frac{5}{16}$ inches in length and the base $6\frac{1}{4}$ inches.

Intervertebral plate of a whale, carefully dressed on the under side, measuring $9\frac{1}{2}$ inches and 8 inches in cross-diameters.

Fragments of perhaps six cups made by scooping out the cancellous part of whales' vertebrae, varying from $4\frac{1}{2}$ inches to $7\frac{1}{2}$ inches in height.

POTTERY.

Small crucible of red clay, of rough hemi-spheroidal shape, with a thick wall, measuring $1\frac{5}{8}$ inch in greatest diameter at the mouth externally, and $\frac{1}{16}$ inch in height, the cavity being $\frac{7}{8}$ inch and $\frac{3}{4}$ inch in cross-diameters and $\frac{1}{16}$ inch deep (fig. 8, No. 5). Found in a crevice high up in west wall of Chamber D.

About one-third of the wall of a large vessel of reddish-brown clay with an almost straight wall converging slightly towards the base (fig. 4). The entire rim and bottom are now wanting. When discovered it was practically complete though cracked, and measured $14\frac{1}{2}$ inches in height. Judging from the remaining part it had measured at least 14 inches in diameter at the mouth and $9\frac{1}{2}$ inches across the base, the wall being $\frac{1}{16}$ inch in thickness. At a distance of over $2\frac{1}{2}$ inches from the lip it is encircled by an applied zig-zag or wavy strip of ornamenta-

tion. This pot was found in an inverted position in the space between the outer end of radial wall B2 in Chamber B and the enclosing wall. Inside it were found one of the large cetacean bone objects with notched sides, part of a red-deer antler, two bones, and some limpet-shells.

Base and lower portion of a vessel of dark grey clay, the remaining part of the wall converging sharply to the base, which measures $4\frac{1}{2}$ inches across, the wall being $\frac{1}{8}$ inch in thickness.

Sixty-five fragments, mostly very small, probably from fifty-eight vessels of clay, chiefly of dark grey and brown colour, only a few being red (figs. 23 and 24). There are thirty-eight fragments of rims and twenty-seven of walls. All except four are ornamented with applied, incised, impressed, or finger-tip designs, and even the four plain pieces, which are rim fragments of no great depth, may have come from decorated vessels. It is quite evident that the shards handed over to the Museum have been selected for their ornamental designs, as more than four hundred other shards were found. A large number of the latter were devoid of ornamentation, and it is more than probable that many would belong to undecorated vessels.

Whorl of red clay of flattened spheroidal form, measuring $1\frac{5}{8}$ inch in diameter and 1 inch in height (fig. 7, No. 8). From Chamber C.

Three whorls, only one complete (fig. 7, No. 9), made from shards of brown and grey pottery, two measuring $1\frac{3}{8}$ inch in diameter and one $2\frac{1}{8}$ inches.

Rounded shard of dark-coloured pottery, measuring $2\frac{7}{8}$ inches in greatest diameter; probably a whorl in the making.

The ware, like the generality of Scottish prehistoric pottery, contains an admixture of crushed stone, usually of small size. This is difficult to detect in some of the finer and thinner pieces. The pottery is hard and well-fired, and some of the thinner fragments are of very good quality indeed. Coarse thick pottery containing large crushed stones is absent, as the thickest piece measures only $\frac{1}{8}$ inch in thickness. The wall in most of the vessels, as represented by the surviving shards, varies from $\frac{1}{4}$ inch to $\frac{1}{2}$ inch in thickness, one bit being only $\frac{3}{16}$ inch thick. Even in the two largest vessels it is no more than $\frac{1}{2}$ inch and $\frac{9}{16}$ inch in thickness. As very few of the rim fragments show any length of lip, it has been possible only in a few cases to estimate approximately the diameters of the mouths of the vessels represented by them. The vessels represented by the pieces illustrated in fig. 23, Nos. 1, 18, and 20, and fig. 24, No. 25, have measured about 15 inches, $7\frac{1}{2}$ inches, 7 inches, and 4 inches across the mouth.

It is impossible to tell the heights or other dimensions of any of

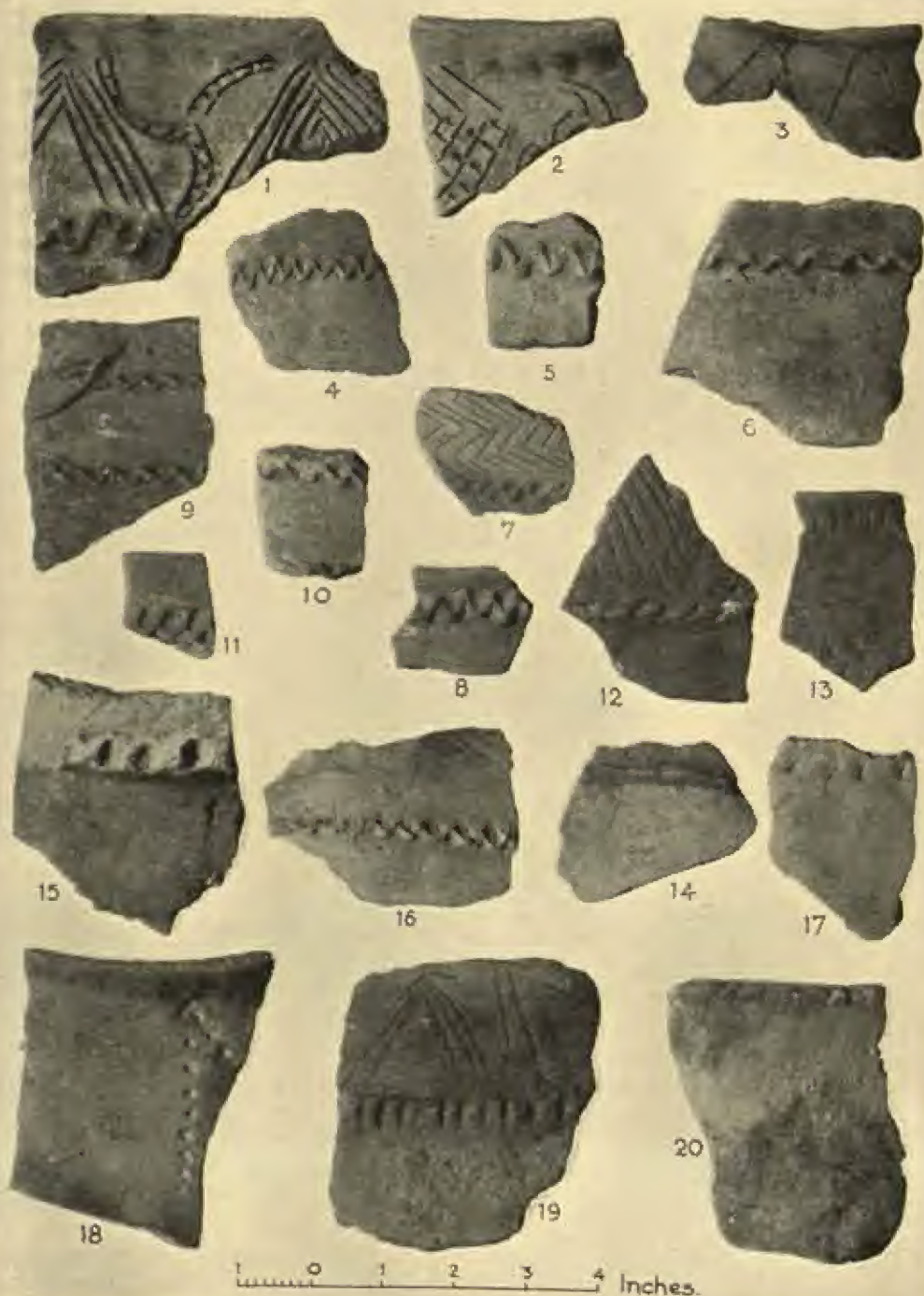


Fig. 23. Pottery from Foshigarry.

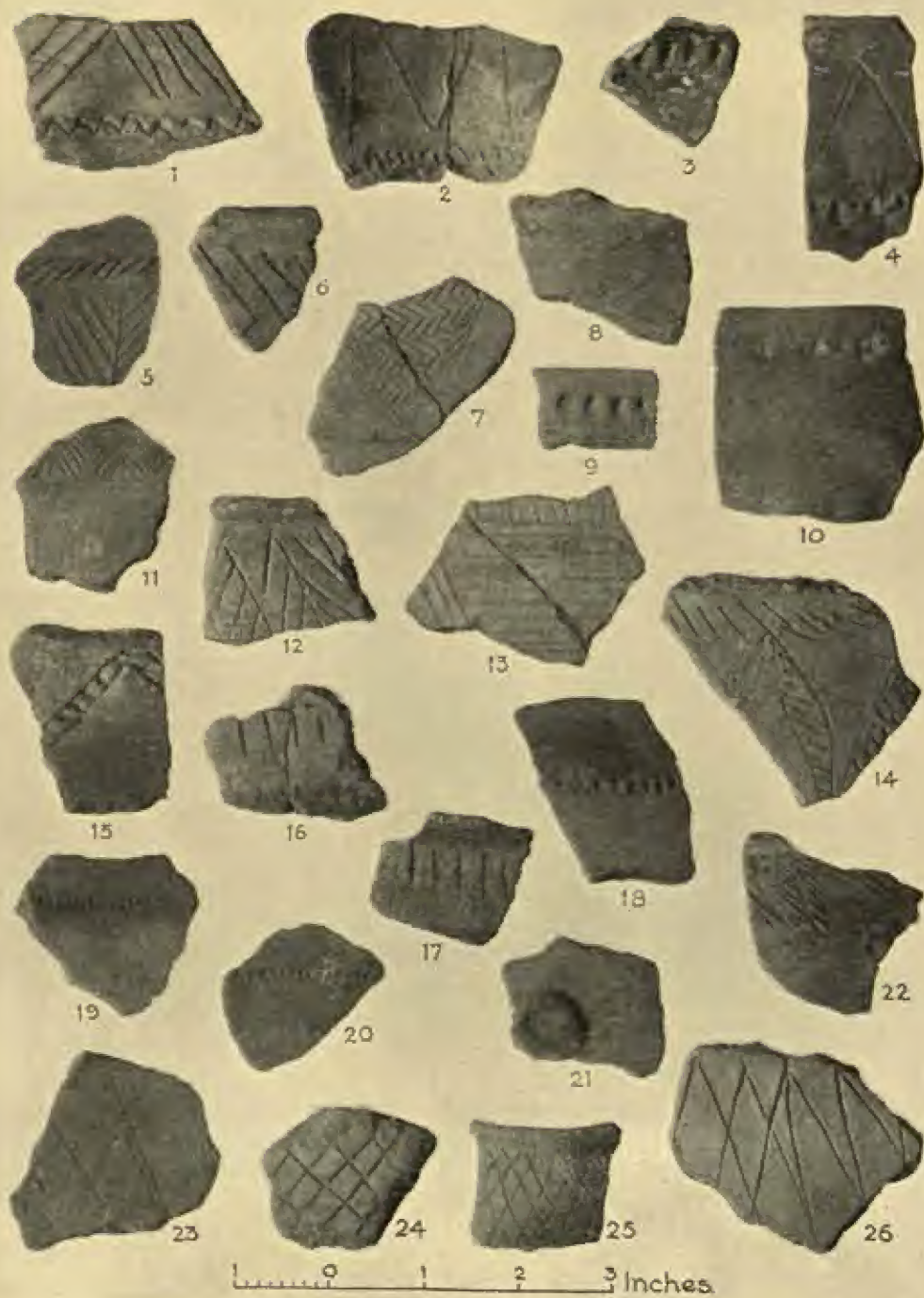


Fig. 24. Pottery from Foshigarry.

the vessels, except in one case where only the basal part is preserved, and it measures $4\frac{1}{2}$ inches across.

Many of the wall pieces show fairly sharp curves, and, if we may judge from some of the deeper rim fragments, a goodly number curved in sharply from the shoulder towards the mouth and then recurved outwards to a greater or less extent at the lip (fig. 25). It may be suggested that some resembled to a certain extent the Roman *ollae*, or cooking-pots, in shape. Also, it is quite possible that some of them may have been almost globular like the hand-made *croggans*,¹ which succeeded the earlier pottery, and continued to be made in the Western Isles as late as the middle of the nineteenth century. In all likelihood there would be many vessels with straight walls, like common red-clay flower-pots, as such vessels have been found by Mr Beveridge in contemporary structures in this corner of North Uist. However, only a very few of the shards which we have got suggest this form of vessel.

In form and in quality of ware the pottery from the Foshigarry earth-houses is extremely good and infinitely superior to the coarse stuff, with its occasional pitiable attempt at ornamentation, fashioned by the inhabitants of the fort on Traprain Law, who, though poor potters, were expert workers in bronze and glass.

It is difficult to explain how the largest vessel (fig. 4), measuring $14\frac{1}{2}$ inches in height and 14 inches in diameter at the mouth, with a wall only $\frac{1}{8}$ inch thick, could be used. Filled with liquid it would be liable to burst unless buried in sand; but if used in this fashion there was no necessity that it should be ornamented on the exterior. When found, however, it was in an inverted position.

Ornamentation.—Applied and incised designs occur most frequently, about thirty times each, and on eleven vessels both forms of decoration are seen. Five pieces bear impressed patterns, and four shards, probably from two vessels, have finger-tip or -nail markings.

Applied designs.—The simplest of the applied designs is a slight moulding or cordon, quite plain, encircling the vessel, which is seen with no other designs on two shards of good ware from a well-curved wall, $\frac{1}{8}$ inch thick, which may have come from one vessel. Six shards, three possibly from one vessel, are encircled by a similar cordon. In two of these the wall is plain (fig. 23, No. 14), in one the moulding is associated with incised, vertical, herring-bone patterns (fig. 24, No. 11), and in the other with what may have been chevrons, the upper angles

¹ In our *Proceedings* these are always spelt "*craggans*," but I have never heard the word pronounced otherwise than "*croggan*" in the Islands, and I have visited practically every inhabited one in the Outer Hebrides, as well as Skye, Coll, and Tiree.

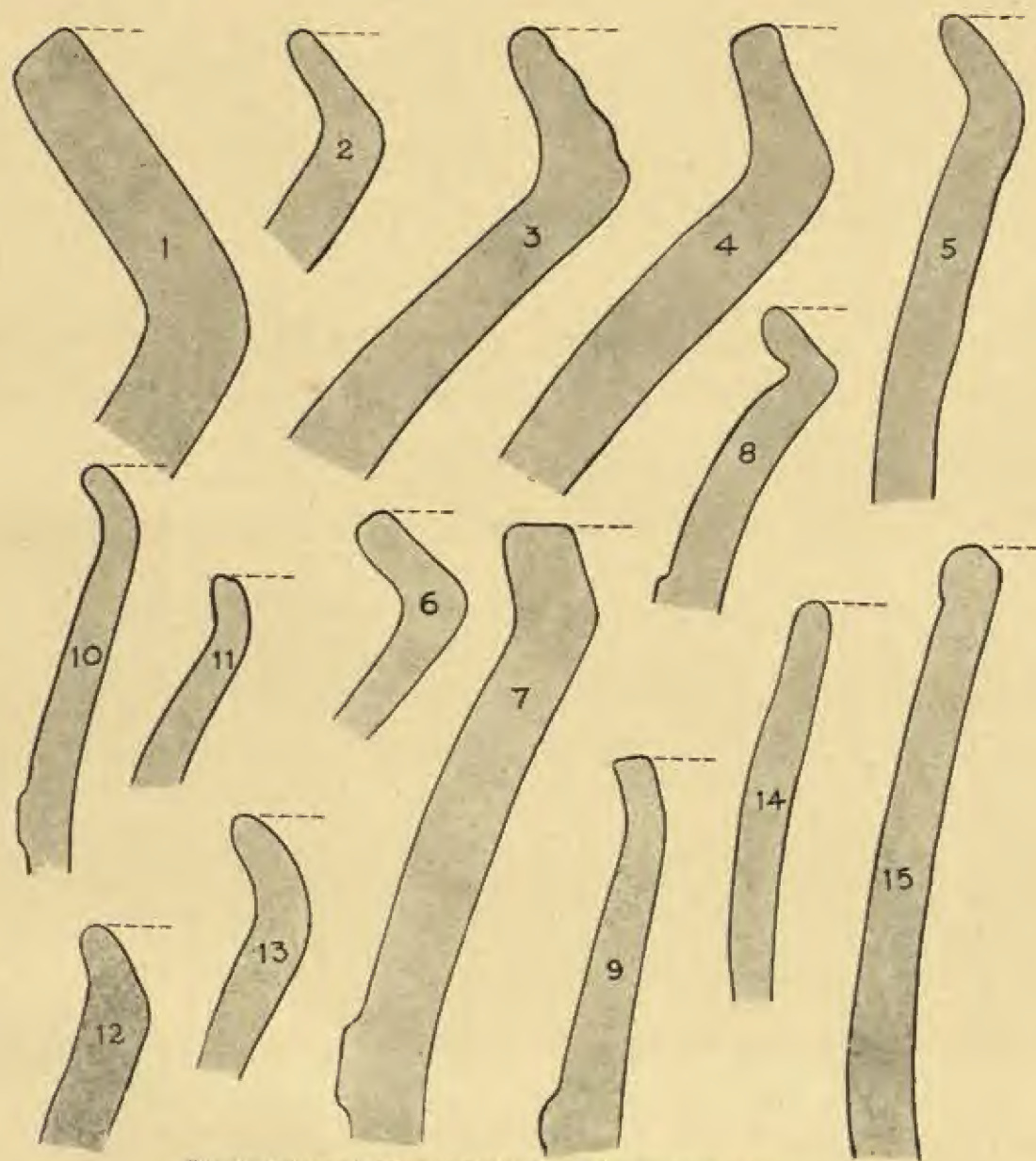


Fig. 25. Sections of Rims of Pottery Vessels from Foshigarry. (1.)

of which were filled with vertical zig-zag lines, all incised (fig. 24, No. 7). The other three pieces have triangular impressions on the moulding with chevrons of four and five lines above (fig. 24, No. 1).

Most popular of all is a wavy or compressed zig-zag narrow strip of clay, forming a band round the vessel, varying from $\frac{3}{16}$ inch to $\frac{1}{2}$ inch in width (fig. 23, Nos. 1 and 4 to 10). In one piece it is placed on the under side of the short recurved lip, on another in the hollow of the neck, but generally it seems to have encircled the shoulder. On the large straight-sided vessel it occurs several inches below the lip. It appears at least on twenty vessels—once with incised, vertical, zig-zag lines; four times with incised chevrons; once with incised chevrons and curved designs; once with a chevron of two lines with short cross-lines between, forming a ladder-like design; once with short vertical incisions just under the short recurved lip; and in the other cases alone. Two shards, possibly from one vessel, show two wavy lines crossed by twig-like streaks (fig. 23, No. 9).

These wavy or zig-zag applied bands are seen on pottery from many prehistoric sites in the Hebrides, in kitchen-middens, earth-houses, and brochs. Such decorated shards from Coll and Tiree, from a kitchen-midden in the Old Cattlefold on Vallay, from the earth-houses at Eilean Maleit and Cnoc a' Comhdhalach in North Uist, and at Galson, Lewis, and from the brochs Dun an Iardhad and Dun Beag, Struan, in Skye, are in the National Museum. It seems to be much less common in the contemporary structures of the north and north-east, but we have specimens from the Everley Broch in Caithness.

Two pieces show a cordon with oblique lines incised on it so as to suggest a cord pattern; one of these also bears incised chevrons of seven lines (fig. 23, No. 12), and the other incised herring-bone patterns with the oblique lines running into a vertical medial line (fig. 24, No. 5).

A raised moulding broken up by impressed vertical lines, suggestive of dog-tooth ornament, is seen on three shards, two of which bear incised chevrons as well (fig. 23, No. 19, fig. 24, Nos. 3 and 4). Similar mouldings occur on pottery from the earth-houses at Kilpheder and near Balelone in North Uist, and at Galson in Lewis, also from the Broch of Lingrow in Orkney.

On one shard is a flat raised moulding with oval depressions on it at intervals (fig. 23, No. 15). This form of ornamentation occurs on pottery from the earth-houses at Kilpheder and Udal, North Uist, and from the broch of Dun an Iardhad, Skye.

A small applied annulet, probably one of an encircling row, appears on one small fragment (fig. 24, No. 21). A fragment in the Museum from Port-nan-Long, North Uist, bears a similar design.

One of the most interesting pieces amongst those mentioned is the one with a wavy stripe, chevrons, and curved designs (fig. 23, No. 1). The chevrons consist of four or five lines, and the curved figure, which is placed in an angle of the chevron, is in the form of a triskele, the arms of which consist of two parallel lines with short cross incisions between, like a ladder pattern. This and another fragment, which shows what looks like another triskele and ladder designs, probably came from the same vessel, as the paste is of the same colour and thickness and there is a row of triangular impressions just under the rim (fig. 23, No. 2). Though the wall is only $\frac{1}{16}$ inch thick, the mouth of the vessel seems to have been about 15 inches in diameter.

One shard bears what looks like an incised leaf design filled with oblique lines (fig. 24, No. 14), and four others, all from different vessels, incised lattice patterns (fig. 24, Nos. 23 to 26). A zig-zag pattern occurs on one small shard, herring-bone designs on another, and vertical and oblique panels formed by short incised lines on a third. One vessel seems to have been decorated with triangles alternately hatched with horizontal and oblique incised lines (fig. 24, No. 13). Five have narrow transverse bands of short vertical incisions (fig. 24, Nos. 16 to 20), one of these bearing chevrons also. A rim fragment is notched round the outside of the lip (fig. 23, No. 20).

Two rim fragments of one vessel have small round indentations under the lip (fig. 24, No. 9), and another shows a vertical and an oblique row of similar marks meeting at the upper ends (fig. 23, No. 18).

Four fragments, three from one vessel, exhibiting finger-tip and -nail markings immediately under the rim (fig. 23, No. 17, and fig. 24, No. 10), complete the tale of the various styles of ornamentation seen on the pottery.

The clumsy little semi-globular crucible of red clay found at Foshigarry is very much smaller and ruder in shape than the fine thin-walled crucibles of grey fire-clay, with triangular mouths, which were found in considerable numbers on Traprain Law, and which also have been discovered elsewhere in Scotland. But this Foshigarry type has had a wide distribution, as one was found in each of the earth-houses at Garrylochdrach and at Cnoc a' Comhdhalach, North Uist; one in the dun at Buaille Risary, North Uist; three, one incomplete, in the broch of Dun Beag, Struan, Skye; one in the Broch of Clumlie, Shetland; and one and part of another in the Broch of Nybster, Caithness. Four similar crucibles and three of larger size though of the same form were found in the vitrified fort of Dun-a-goil in Bute.¹

The collection of relics found in the earth-houses at Foshigarry is not

¹ *Trans. Bute-shire Nat. Hist. Soc.*, 1925, p. 59, Pls. 38 and 39.

only large, but it is remarkable for the great number of implements and other objects fashioned of bone and deer-horn compared with those made of stone and metal.

The stone objects consist of pot-lids, hammer-stones and pounders, whet-stones or burnishers, oval pebbles used as strike-a-lights, whorls, socket-stones, pieces of pumice, part of a heavy ring, and an axe. All these types of relics, except perhaps the last three, have not infrequently been met with in contemporary structures such as brochs. The only objects which call for special comment are some of the strike-a-lights and the pieces of pumice. Four of the former, which are made of the usual flattened oval pebble, do not bear the regular oblique grooves worn by the iron striker on the faces, but show streaks of iron rust only. The cache of forty-one pieces of pumice is unique. Its presence, however, is easily explained by the occurrence on the site of so many articles made of bone. Nothing was more suitable for rubbing down into shape pins, needles, and other finely finished relics, and the material was to be found on many of the sandy beaches, washed in by the sea. Pieces of pumice which have been used as rubbers have been found on other sites belonging to the same period. A considerable number came from the earth-house at Garry Iochdrach, North Uist; at least eleven from the earth-house at Bac Mhic Connain, Vallay, North Uist; eight from the Broch of Burrian, Orkney; two from the earth-house at Howmae, Orkney; and one each from the earth-house at Cnoc a' Comhdhalach, North Uist; the broch of Dun Beag, Struan, Skye; an inhabited site on the Ghegan Rock, in the Firth of Forth; and from a wood-carver's wooden tool-box which was found near Howe, Evie, Orkney.

Although the small crucible suggests that objects of bronze were fashioned here, only two relics made of this metal were recovered—one a pin, and the other a small mounting of indeterminate character.

Relics made of iron were nearly as scarce, consisting as they did of a large mass of the metal, some pieces of slag, a few large rivets, fragments of two knives, and the small rivets by which the plates of the small-toothed combs were maintained in position. From the considerable number of deer-horn and bone handles which were found, and from the occurrence of a large lump of the metal, it may be inferred that this metal was utilised to a greater extent than the number of objects found would indicate. Still it has to be noted that none of the sockets of the handles contained traces of rust. The comparative absence of iron, however, is probably explained by the decay of the metal, which, lying in very porous soil, was continually drenched by sea-water.

When we consider the objects made of bone and deer-horn, it will be found that generally cetacean bone was chosen for making the larger

implements, antlers of the red-deer for those of medium size, and other mammalian bones for the smaller objects. Only three articles were made of bones of birds, one being a pin, another a pin or awl, and the third a tubular object made from a bone of a large bird.

That bones of whales should have been so much used is not surprising, because there must always have been a plentiful supply of them in the Hebrides, as in Orkney and Shetland. Dead whales would occasionally be washed ashore by the waves, and at times live ones would be left stranded in shallow waters. It is less than four years ago that a school of the very rare false killer whale (*pseudorca crassidens*) was left high and dry by the tide in Dornoch Firth.

The most striking of all the relics found at Foshigarry is the group of large implements made of long flat slates of cetacean bone, showing the natural surface on one side and a whittling down on the other (figs. 1 to 3). These implements may be divided into three classes. In the first are two long club-like instruments which would have made quite efficient weapons if used as swords or clubs; one of these has notches at the narrow end, apparently to improve the grip (fig. 3, No. 1). The second class consists of five crescentic objects, which are rather shorter and broader than those in the first, and of fairly regular width for nearly their whole length (fig. 3, Nos. 3 to 5). The third class is the most numerous, consisting as it does of at least fifty examples (figs. 1 and 2). These are not so long as those in the other two groups, but every one of them seems to have been notched at one end.

All these implements are worn down on the under side of the top end, as if by vigorous rubbing. One or two have been worn almost square across the end, others are regularly curved, and a few have the abrasion towards one side, so that the end while rounded is obliquely pointed. As there are no facets on the worn parts, only regular curves, it is evident that their present shape was not caused by filing or grinding, but seems rather to have been the result of their having been used for rubbing some yielding material. As the cancellous tissue on the inside of the bone is hard and honeycombed these implements would have made efficient rasps for preparing skins for clothing.

The deep notches towards the narrow end would seem, at the first glance, to have been intended to improve the grip. But the nicks are roughly made, and are uncomfortable when grasped in the hand; also, some of the objects are rather broad to be gripped with ease. It is quite possible that the notches were meant for the attachment of a wooden handle, which by increased leverage would improve the efficiency of these implements.

Large flat blades of cetacean bone with one end rubbed down in

a similar fashion to those just described have been found in the Broch of Burrian, and in the earth-houses at Saverock, near Kirkwall,¹ and Howmae, North Ronaldshay, all in Orkney; but although one from the second of these sites is practically of the same general form as that illustrated in fig. 2, No. 4, not a single one of them has the deep V-shaped notches of those from Foshigaray. On the other hand, some of the implements from Burrian and Howmae have large oblong perforations near the middle of the blade.

Another peculiar utensil found on the site is the cylindrical object encircled by one or more grooves worn obliquely as if by the friction of a running cord (fig. 13). Eleven of these were recovered, and of the ten in the Museum one is of cetacean bone (No. 1), four of deer-horn (Nos. 2 to 5), and five of bone (Nos. 6 to 10). Three seem complete (Nos. 6 to 8), and one of these shows two grooves (No. 7). All the others are broken across the thinnest part of the groove. One (No. 3), after having broken across one groove, seems to have been used again until it gave way at a second groove.

Objects of this class have been found elsewhere, but chiefly, so far as I know, in the Outer Hebrides. In earth-houses, four were found at Bac Mhic Connain; one at Udal, North Uist; one at Bruthach a Tuath, Benbecula; and two at Galson, Lewis. Three were discovered at Bragar, Lewis, on what I believe was the site of an earth-house; three in a wind-swept sandy gully at Bealach Ban, near Loch Hosta, North Uist; two in the Broch of Burrian; and one in the Keiss Broch, Caithness.² In addition, I picked up one on a wind-swept sandy hollow on the west side of South Uist, and another in a kitchen-midden near Tain, Rossshire,³ the latter having been made of the burr end of a roe-deer's antler.

It is not evident what these objects were used for. Although some of them are hollow they were not fitted on spindles or axles, because most of them are solid. That they had been submitted to a considerable strain on the worn part is clear as it would require a good deal of force to break such a stout object as that illustrated in fig. 13, No. 1.

The weaving combs, whorls, small-toothed combs, pins both ornamental and plain, needles, awls, and borers of bone are all well-known types of broch and earth-house relics. But one of the Foshigaray weaving combs has unusually short, dumpy teeth (fig. 11, No. 2), and the awls generally are thinner and less carefully made than usual.

Hammer-heads of cetacean bone (fig. 10) are very rare types of relics, although several others have been reported. Half of one very

¹ This site should not be confused with the underground structure at Saverough, near Birsay, Orkney.

² *Proc. Soc. Ant. Scot.*, vol. xxxv. p. 112.

³ *Ibid.*, vol. lxiv. p. 10.

similar to one of the Foshigarry hammers was found at Bac Mhic Connain. Three more of cetacean bone are in the Museum; one measuring $9\frac{1}{2}$ inches in length, came from Keiss Broch, Caithness; and the other two, which are small and resemble some of our Bronze Age stone hammers, were discovered in Orkney, one from the Broch of Cairston and the other from an unknown locality.¹

The deer-horn objects with a hole near one end (fig. 15), which resemble some North American instruments for straightening the shafts of arrows, are the only Scottish examples which I have seen.

Small, thin, square plates of bone with a perforation at each corner, known as weaving tablets, were used on the Continent for weaving.² One of these was discovered in the kitchen-midden near Tain already referred to, and another in the Skirza Head Broch, Caithness. Two small circular examples with two and four perforations respectively, which were found in the Broch of Jarlshof, Shetland, and one with two perforations in the Broch of Burrian may have been used for the same purpose. The two circular specimens from Foshigarry with three and four perforations, although they are much larger than the others (fig. 12, No. 4), may also have been used in the same way. Large intervertebral plates of cetacean bone pared down in parts like the one from Foshigarry have been found at the earth-house at Bragar and in the Old Cattlefold, Vallay, one from each site. The first of these, however, had a perforation on each side, opposite each other. Cups made by scooping out the vertebrae of whales have been reported from other earth-houses and from brochs.

Although many pointed implements made from the long bones of small animals like sheep have been recovered from brochs and earth-houses, very few of them have the broad end drilled to form a socket, and so they generally have been classed as boring instruments. The whole lot found at Foshigarry have such a socket and would appear to have been used as spear-heads (fig. 16). Similar objects have been found in the Howmae earth-house and in the Borness Cave, Stewartry of Kirkcudbright, which yielded many relics of Romano-British times. In addition to these spear-heads there is another which must be considered a harpoon, as the point is nicely barbed (fig. 17). One other harpoon of somewhat similar type, however, is recorded, and it was found in the Bac Mhic Connain earth-house, which lies barely two miles to the eastward. This example is not so well finished, as the head has only a notch at either side and not the fully developed undercut barbs.

Borers formed from the ulnae of small animals, like those seen on fig. 14, have been found on a few Scottish sites only: one in the

¹ *Supra*, p. 96, fig. 18.

² *Flechten und Weben*.

earth-house at Skara Brae, Orkney; one in the Broch of Nybster, Caithness; two in the Broch of Lingrow, Orkney; three in Keiss Broch; and the same number in the Road Broch, Keiss and at Howmae.

An interesting relic of a form occasionally found in brochs is the die for playing dice (fig. 6). Three others were discovered in the Broch of Burrian, two in the Hillhead Broch, Caithness, on the supposed site of a broch at Slackwick Bay, Sanday, Orkney, and one at Bac Mhic Connain. These are all perforated lengthwise.

In fig. 22 is illustrated a miscellaneous group of relics made for special purposes. Some have obviously been used for rubbing, but others are of unusual form, especially the two with a forked end (Nos. 6 and 7).

The relics found in Dun Thomaigh were few, and call for no special comment, only it may be said that if they had been found in any of the earth-houses or brochs which have been mentioned they would have been considered quite characteristic of the period of these structures.

Little is now to be seen of the earth-houses at Foshigarry. When I first went to North Uist in 1914 and visited the site with Mr Beveridge, the whole of the buildings had been covered up with blown sand, over which a carpet of grass was already growing. The only parts of the structure visible were the ends of some of the walls in the sand-bank above the beach, which were being undermined by the action of the sea. As I have suggested elsewhere, this encroachment is, to a certain extent, due to a sinking of the land, which is still in progress both on the west and east coasts of Scotland.¹

If Mr Beveridge's surmise that Chambers A and B had curved walls on their northern sectors as in their southern halves, and I think he was quite right, then the isolated Chamber A falls into line with the other wheel-shaped earth-houses with radial partition walls in North Uist and South Uist. In Chamber A these radials are continued right into the main encircling wall of the building, but in B and C there is a vacant space between them and the outer wall. In the wheel-shaped earth-houses at Cnoc a' Comhdhalach (pron. Cnoc a' Cohaulach),² at Garry Iochdrach, at Eilean Maleit,³ and at Machair Leathann (fig. 26),⁴ in North Uist and at Usinish in South Uist,⁵ also in the curvilinear chamber in the earth-house at Howmae, Orkney,⁶ and in the outbuildings at the Broch of Yarhouse, Caithness,⁷ are truncated radials similar to those in Chambers B and C. And the continuous walls of Chamber A are

¹ *Proc. Soc. Ant. Scot.*, vol. lxiii. p. 319.

² *Ibid.*, p. 207.

³ *Ibid.*, p. 121.

⁴ *Ibid.*, vol. xix. p. 23.

⁵ *North Uist*, p. 200.

⁶ *Proc. Soc. Ant. Scot.*, vol. vii. p. 165.

⁷ *Archæologia Scotica*, vol. v. p. 134.

represented in the wheel-shaped earth-house at Bac Mhic Connain and in a similar chamber in the outworks at the Broch of Jarlshof in Shetland.¹ It is thus seen that this structural feature has a wide range, though, so far, most of them have been discovered in the Outer Hebrides. Evidence that the inner ends of these small voussoir-shaped compartments had been closed or partially so by slabs or buildings is to be found in several of the earth-houses. In Chamber C, as at Garry

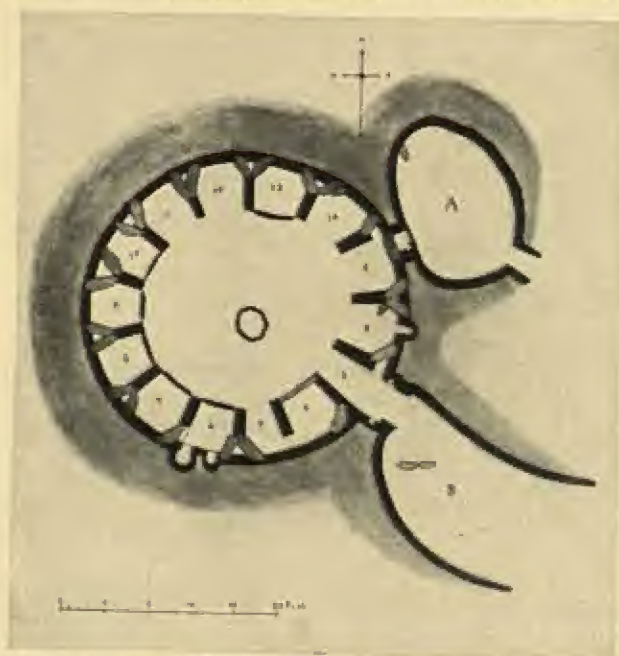


Fig. 26. Earth-house at Machair Leathann, North Uist.

Iochedrach, Cnoc a' Comhdhalach, Eilean Maleit, and Machair Leathann it is seen that the inner ends of the cubicles have been blocked up, entrance to the various rooms having been obtained through the narrow space between the radial and the main wall. In Chamber A at Foshigarry and at Bac Mhic Connain where the radial went into the main wall, the inner end was only partially built up, leaving a space for access into the cells.

It is believed that the radial walls in most of the North Uist earth-houses were meant to support lintels forming the roof, although some of the outer walls at Foshigarry and Bac Mhic Connain converged as they rose, and at Jarlshof there seems to have been regular beehive-shaped roofs.

¹ *Proc. Soc. Ant. Scot.*, vol. xli. p. 11.

Hearths near the centre of the floor were found in Chambers B and C, a feature encountered in nearly all the other North Uist earth-houses and in brochs. The central space above the hearths must have been left unroofed, otherwise the people living in these buildings would have been smoked out.

Boxes formed of slabs set in the floor, and termed sinks by Mr Beveridge, occurred in Chambers B and C, but this is not an uncommon feature in other earth-houses and at brochs. In the Skara Brae earth-houses there were seven hearths and many boxes formed in this fashion.

Mr Beveridge considered that Dun Thomaidh bore some resemblance to the four semi-brochs which he discovered in Tiree.¹ It seems better, however, to class it with the galleried duns which occur in Skye and the Outer Hebrides, and which have certain structural details common to both the semi-brochs and brochs. But Dun Thomaidh differs from the galleried duns in its series of outbuildings at the western part of the site. Similar outbuildings are present in some of the North Uist earth-houses and in brochs in Caithness, Orkney, and Shetland.

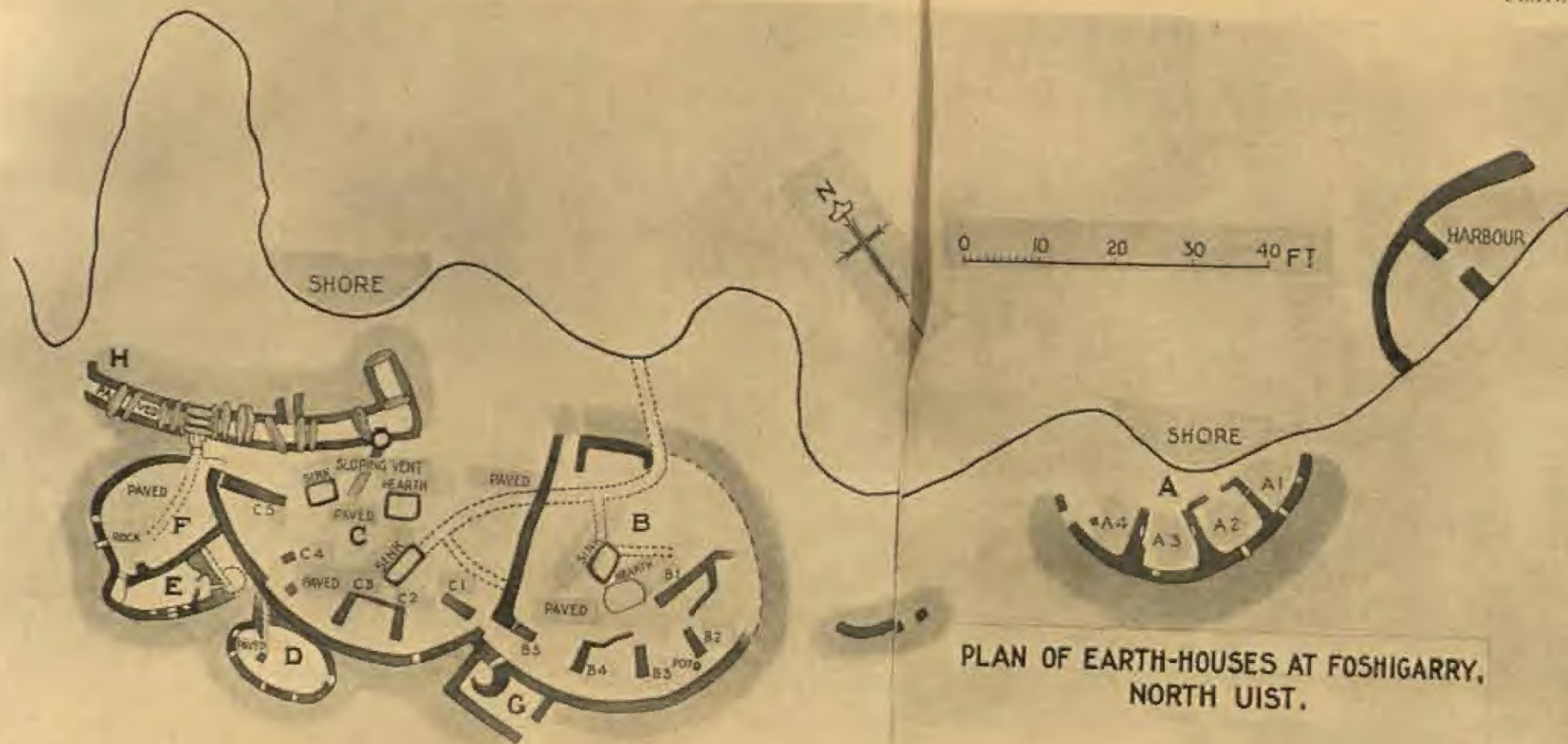
The boat harbour at Dun Thomaidh is not an isolated example, as they are to be seen in Dun Aonais and Dun an t-Siamin, and in the earth-house at Garry Lochdrach, all in North Uist.

The sinking of the land referred to in connection with Foshigarry is much more evident at Dun Thomaidh, as it could not be inhabited to-day.

From such comparisons of the structures and the relics found at Foshigarry and Dun Thomaidh with various earth-houses, brochs, and duns in the Hebrides and the extreme north-east and north of Scotland, it is perfectly plain that these various types of buildings must have been built by a people who, from the Outer Hebrides to Caithness and distant Shetland, were in close communication in the first centuries of the Christian era. There were local differences in structures and in the relics contained in them, but they show a wonderful family resemblance, and they all belong to the same culture, that of the latter part of the Scottish Early Iron Age.

At what time, and why, were these Hebridean earth-houses deserted are interesting problems. A small piece of Roman Samian ware was discovered in the earth-house at Bae Mhic Connain, and I found two small fragments which fitted in a kitchen-midden beside the site of a building which I was told had been an earth-house in Lewis. Unfortunately the sherds were only such small rim pieces that their date could not be determined. However, they must have been inhabited when the Romans were in Britain. No Viking relics were found, and

¹ *Coll and Tiree*, pp. 73-83, and 161, 162.



Plan of Earth-houses at Fochigarry, North Uist.

[To face page 32].



we may take it that the buildings had fallen into disuse before that people arrived. From the discovery of the six slabs of whales' bone in the box-like structure at Foshigarry, and the hoard of fragments of pumice there, it would appear that the evacuation took place suddenly. Whether the cause was a cycle of storms overwhelming the site with sand, a migration of people, or an influx of alien tribes is not known. It is interesting to recall that the occupation of the fort on Traprain Law does not seem to have extended much beyond the early part of the fifth century A.D.

II.

AN UNDERGROUND BUILDING AT MIDHOUSE, ORKNEY; TWO
URNS FOUND AT LINTLAW, BERWICKSHIRE; AND THE EX-
CAVATION OF A CAIRN AT DRUMELZIER, PEEBLES SHIRE.
By J. HEWAT CRAW, SECRETARY.

I. EARTH-HOUSE AT MIDHOUSE.

The farm of Midhouse is situated in the parish of Evie, and forms the northmost point of Mainland, Orkney. While staying at Evie in June and July 1930 I learned that an underground chamber had been found at Midhouse in the beginning of March. Mr Maxwell Horne of Midhouse kindly gave his consent to having the soil removed, and arranged with his byreman, Alexander Fowlis, to help me with the work. Accordingly, for six evenings, after having finished the day's work at the Broch of Aikerness, I went to Midhouse for a couple of hours to make the examination. The soil was not in a condition to pass through the meshes of a riddle, but was examined as it was removed. No relic of any kind, however, was found, and no trace of charcoal or bone, or of a darker stratum of soil could be seen.

The position of the structure is on the east shoulder of rising ground $\frac{1}{4}$ -mile east-by-south of Midhouse farm steading, and just below the 100-foot contour.

The roof slabs lie some 15 inches beneath the surface, covering a chamber shaped like the letter P, the stem representing the entrance. It measures 11 feet by 8 feet, and the roof is 3 feet 3 inches above the floor, which is unpaved. The sides are quite devoid of building, and the slabs of the roof are supported by seven upright monoliths and one irregularly shaped block of stone, marked E on the plan (fig. 1), which shows the construction as seen from below. The largest of the monoliths, rectangular on plan, stands in the centre, supporting a large oval roofing slab. The

other six supports are flat slabs which project at right angles from the earthen wall of the chamber. Where necessary, smaller slabs have been laid on the top of the pillars to raise them to the required height. In all,

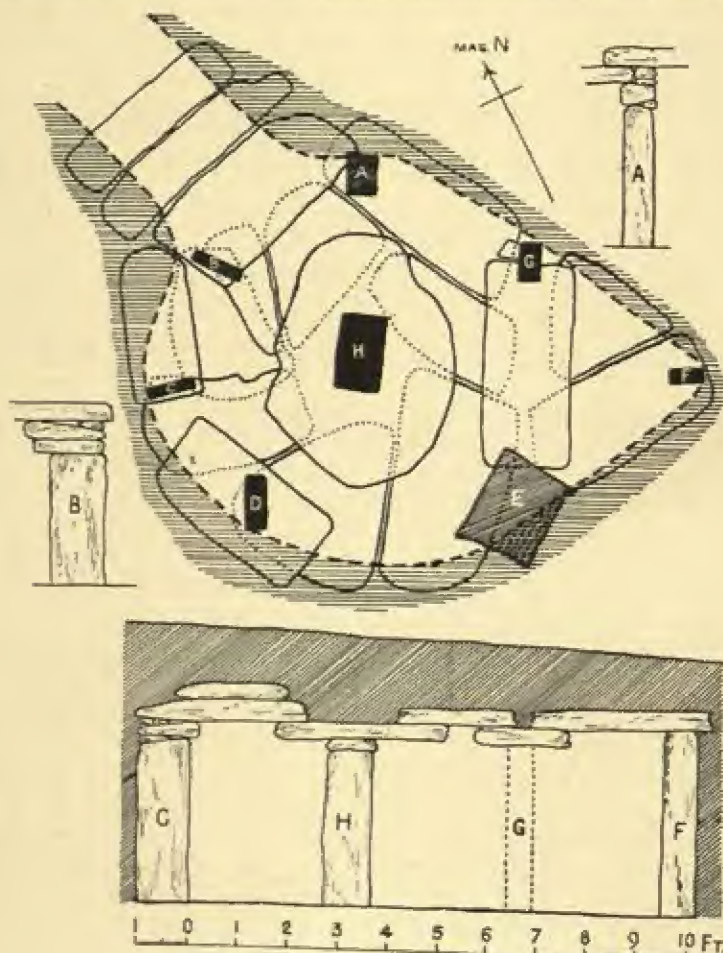


Fig. 1. Earth-house at Midhouse, Orkney.

fourteen slabs form the roof, and two narrow slabs had acted as lintels at the entrance; these, however, had been removed when the chamber was opened, and were taken to the edge of the field.

No relics having been found, there is no direct evidence of either the age or the purpose of this construction. Human occupation could hardly have failed to leave traces behind in the form of darkened soil, if not by relics; and one might expect even burials to leave some evidence,

unless the period was very remote. As a place of concealment, seldom in use, its barren condition might be more easily explained.

Several more or less similar chambers occurring in Orkney were described in our *Proceedings*¹ last year by Mr Kirkness, some being roofed with slabs and others by corbelling. They have yielded little in the way of relics, but at Shapinsay one contained a gold ring of a ninth-century type. In the north of Scotland and in the Hebrides are found underground constructions having the roof slabs supported by slabs standing at right angles to the wall. These are recognised as having been used for human habitation.

II. LINTLAW URNS.

While a field was being prepared for turnip-sowing at Lintlaw, in the parish of Bunkle, Berwickshire, on 8th May 1930, a large cinerary urn containing burnt bones was brought to light. Mr A. M. Calder, the farmer of Lintlaw, kindly sent a telephone message to me the same evening, and I went to Berwickshire the next day. The site of the find is in a field called the Fore Hill, 1150 yards west of Lintlaw school, and 650 yards north of the farm-steading of Easter Cruicksfield. It lies some 470 feet above sea-level on the east shoulder of a ridge which rises to 488 feet about 330 yards to the west. The distance from the wall at the west side of the field is 100 yards, and from that at the north side 190 yards.

Mr Calder having put a couple of men at my disposal for the afternoon, we first examined the spot where the urn was found, and then began to turn over the adjacent ground. At a distance of 43 feet to the south-south-west we found another urn broken into a large number of fragments, and a quantity of incinerated bones. Both urns had been placed in an inverted position, protected by stones set on edge, and lay close beneath the plough furrow; they had, in fact, been broken by the feet of the horses when the land was being ploughed. They had been placed on, or close to, an encircling belt of small boulders, some 9 to 15 inches in diameter; the belt, which was only traceable at parts, many of the stones having apparently been removed, was 5 to 6 feet in width, and had enclosed an area about 45 feet in diameter.

On 14th February 1931, with the help of members of the Edinburgh League of Prehistorians, a further examination of the ground was made, digging down to the red subsoil which lay at a depth varying from 6 to 12 inches from the surface. Midway between the spots at which the urns lay was found a cist with axis pointing north-east (63° east of magnetic north). It was well formed of four large slabs and a cover, which had evidently been brought from the Whitadder banks almost a mile to the

¹ Vol. lxiv. p. 222.

south-west. The cist measured 3 feet 10 inches in length by 2 feet 6 inches in width at the north-east end and 2 feet 2 inches at the south-west end. It was 2 feet 2 inches deep and was unpaved. The cover measured 5 feet 1 inch by 3 feet 1 inch by 4 inches. It lay 13 inches beneath the surface, and was covered by a couple of inches of the red subsoil. The latter fact suggests very strongly that the cist had not been opened since the time of burial; the subsoil was doubtless thrown from the original excava-



Fig. 2. Cinerary Urn from Lintlaw, Berwickshire.

tion, and could hardly be replaced after any subsequent opening without containing a large admixture of surface soil. Another fact suggesting the improbability of a previous disturbance was that the cover on being lifted fell into several pieces from its own weight.

The cist was filled with soil, which may have been introduced subsequent to the burial, as there were clear signs of moles having worked inside the cist. In the soil were found a wedge-shaped piece of iron measuring 2 inches by $\frac{1}{8}$ inch by $\frac{3}{8}$ inch, a fragment of flint $\frac{1}{2}$ inch by $\frac{3}{4}$ inch, showing slight traces of secondary working, another fragment $\frac{3}{4}$ inch by $\frac{1}{2}$ inch by $\frac{1}{2}$ inch, showing the effects of heat, one small piece of calcined bone, and a few pieces of charcoal.

The examination of the area within the encircling belt was com-

pleted on 20th March, when Mr Calder kindly supplied a couple of men to help in digging over the ground. No further interments, however, were found.

The first urn to be found is of reddish-brown clay (fig. 2). It measures 13 inches across the mouth, and is entire for a distance of 11 inches from the lip: the original height may have been about 15 inches. At a distance of $3\frac{1}{2}$ inches below the lip is a raised moulding on which is a series of deep vertical incisions. Below the moulding the urn is plain. Above the moulding, about midway between it and the lip, is another series of impressions, somewhat shallower and slightly inclined. On either side of this band is a series of lightly scratched lines, those in the upper series being inclined in the opposite direction to those in the lower. Eight raised knobs surround the urn immediately below the lip. The lip has a broad inward bevel, and bears three twisted-cord impressions, separated by maggot impressions applied with the obliquity reversed in alternate rows. The deep vertical incisions are a very unusual feature on cinerary urns; they occur on an urn found on Rosebrough Moor, three miles south-west of Lucker, in Northumberland. This urn was found by Greenwell some sixty years ago in a cairn measuring 25 feet in diameter and 3 feet in height. It was inverted over burnt bones on the cover of a cist which was found to contain a beaker. The Rosebrough urn also has a design on the inside of the lip similar to that on the Lintlaw urn. Greenwell speaks of it as "a very remarkable specimen . . . the first that I have seen which has the peculiar but effective ornament seen upon the rim."¹ He gives rather a misleading figure of the urn, which is much better illustrated by Abercromby.²

The second urn (fig. 3) is yellowish-brown in colour, measuring $15\frac{1}{4}$ inches in height, $13\frac{1}{2}$ inches across the mouth, and 5 inches across the base. The rim is $3\frac{1}{4}$ inches high, and is separated by a raised moulding from the neck, which is 4 inches in height. The rim bears the common form of ornament, consisting of alternate groups of horizontal and vertical impressions of a twisted cord. On the neck are looped-cord impressions forming a series of narrow inverted U's. Between the neck and the body of the urn is a series of finger-tip impressions. Vertical cord impressions cover the body or lower part of the urn. The lip is square in section, bearing alternate groups of finger-nail impressions in a herring-bone arrangement, and horse-shoe impressions made with a cord held beneath the finger-nail. This urn has been completely restored.

¹ *British Barrows*, p. 415, fig. 60 (p. 73).

² *Bronze Age Pottery of Great Britain and Ireland*, vol. ii. pl. lxxiii. No. 120; *Proc. Soc. Ant. Scot.*, vol. xli. p. 227, No. 19 (1906-7).

The fragments of bone were sent to Professor Bryce, to whom I am indebted for the following report:

The deposit from *Urn A* is very small, and none of the fragments are large enough, or distinctive enough, to determine either the age or the sex of the individual. *Urn B* contained a large and typical deposit of calcined bones. As no duplication of any distinctive fragment could be detected, it is to be concluded that the deposit represents a single individual, but whether



Fig. 3. Cinerary Urn from Lintlaw, Berwickshire.

a man or a woman it is not possible to say. Some entire phalanges with epiphyses united show that he or she has passed the twentieth year of life. This is confirmed by the fact that the dentition appears to have been complete. This is inferred from the condition of the sockets for the teeth in one-half of the lower jaw, which has partially escaped destruction. The individual was probably of full adult age at the time of death.

The charcoal was examined by Mr M. Y. Orr, who was able to distinguish two varieties of wood. One of these was oak, the other was either birch or hazel.

From the facts revealed by this excavation it would seem that the original burial, a cremated one, was made in the cist either in the beginning or middle of the Bronze Age, more probably the latter, with a cairn

some 45 feet in diameter covering it. Much later in the Bronze Age two burials of cremated bones, contained in large cinerary urns, were made at the edge of the cairn on opposite sides. How the small piece of iron came to be in the cist is not evident.

The urns have been presented to the National Museum of Antiquities by the Earl of Home. Our thanks are also due to Mr Calder for the facilities and help he has given in making a complete examination of the ground, and to the diggers for their enthusiastic work.

III. DRUMELZIER CAIRN.

The site of the cairn is close to the right bank of the Tweed, less than $1\frac{1}{2}$ mile above the village of Drumelzier and 150 yards south by east of the cottage known as the Ford House, where the old road from Peebles passed through the river on its way to the upper valley of the Tweed (A, fig. 4).

While walking past the spot on 21st April 1929 my attention was attracted by a mound of unusually symmetrical appearance (fig. 5). On examining the side next the river I found that the bank in the process of erosion had carried with it part of the mound, leaving exposed the corner of a cist, of which the slabs forming the cover, the end, and one side could be seen (fig. 6). The cairn had been placed on the top of a small knoll, 30 feet above the river, which is 20 yards distant to the south-west. Its apparent measurements were 55 feet in diameter and 5 feet in height, but excavation showed later that the cairn itself did not measure over 40 feet in diameter, and that the highest point was only 2 feet above the original surface of the knoll on which it was placed (fig. 7). There were evident signs of disturbance at the north-east side.

On the 22nd of April, having obtained permission to open the cairn from Mr W. J. W. Nicol of Netherurd, the proprietor of Drumelzier Place, I began the work of examination along with Mr J. Deans Ritchie, and with the help of Mr A. Farquhar, gamekeeper, Drumelzier, and Mr J. Nelson, farm manager, Drumelzier Place. The cist (No. 4 on the plan, fig. 7) did not seem to have been disturbed, and was filled with yellowish sandy subsoil, which could not have entered by infiltration, the surrounding soil being of a dark colour. It measured 2 feet 3 inches in length by 1 foot 7 inches at the west end and 1 foot 4 inches at the east end; it was 1 foot 5 inches deep; the axis pointed east (108° east of magnetic north),



Fig. 4. Drumelzier Cairn: Map of locality.

and the cover, which measured 3 feet 2 inches by 1 foot 9 inches by 6 inches, lay 11 inches beneath the surface of the cairn. This cist was



Fig. 5. View of Drumelzier Cairn.

unpaved, and contained no relic except a fragment of charcoal, the soil being carefully riddled.

For a few hours on the three following days I dug at the centre of



Fig. 6. Cist in Drumelzier Cairn.

the cairn, finding an oblong cist-like excavation, without slabs, cut to a depth of 3 feet below the top of the cairn. It measured 4 feet 6 inches by 2 feet 4 inches, the axis pointing north-east (about 68° east of magnetic north). No relics or bones were found, but in the west part of the grave was a circular area, 20 inches in diameter, containing charcoal, and extending 3 inches deeper into the subsoil than the floor of the cist.

The rest of the cairn was excavated with the help of members of the Edinburgh League of Prehistorians, five visits being paid to the spot, on 10th, 17th, and 19th May, 4th October, and 22nd December 1930. Including the discoveries already made, the cairn was found to contain no fewer than seven cists (three of which were unusually small in size), one cist-like excavation, and two small oval settings of stones, probably formed to protect cinerary urns. The relics were fragments of Neolithic

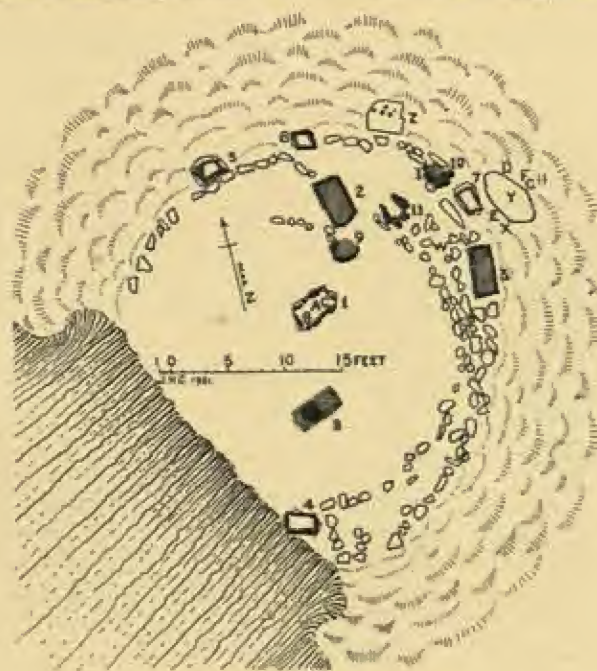


Fig. 7. Plan of Drumelzier Cairn.

or Overlap pottery, one beaker urn and a fragment of another, parts of six cinerary urns, part of a jet armlet, a broken whetstone, a small fragment of iron, a flint saw, a number of other fragments of flint and chert, some of them showing secondary working, and a slab with ring markings carved on it.

The cairn had apparently been surrounded by a ring of boulders, 31 feet in diameter, marking its periphery. The ring had in parts been disturbed for later interments, and evidence of a second external ring partially surrounding the cairn was found at the north, east, and south sides. At the south-west side the ring had disappeared with that part of the cairn destroyed through erosion by the river.

The primary interment (cist. No. 1) lay near the centre of the original

ring of boulders. The cover, measuring 4 feet 4 inches by 2 feet 3 inches by 8 inches, lay about 10 inches below the original surface and 3 feet beneath the top of the cairn. The cist measured 3 feet 3 inches by 1 foot 8 inches by 1 foot 3 inches, the axis pointing north-east (67° east of magnetic north). The sides were not formed of slabs, but of rounded or oblong boulders placed somewhat irregularly; the bottom was unpaved. It was full of soil, and contained a small beaker urn (A), which stood upright near the centre (fig. 8). A small piece of another beaker (fig. 9, B) and fragments of Neolithic or Overlap pottery (fig. 9, C) lay near the south side of the cist. Riddling revealed the presence of a flint saw, $1\frac{1}{4}$ inch by $\frac{3}{8}$ inch, and thirteen flakes of flint and chert.¹



Fig. 8. Beaker from Drumelzier Cairn.

Cist No. 2, which lay 6 feet to the north of No. 1, seemed to have caused some disturbance of the secondary ring. The sides were built up with two courses of stones. It measured 3 feet 10 inches by 1 foot 11 inches by 1 foot 8 inches, the axis pointing north-north-west (11° west of magnetic north). There was no cover and the bottom was unpaved. The soil on being riddled was found to contain no relics.

Cist No. 3 lay just outside the original ring of boulders, at the east side of the cairn. It measured 4 feet 1 inch by 1 foot 8 inches by 1 foot 10 inches, the axis pointing approximately north (5° east of magnetic north). This cist also was unpaved. There was no cover *in situ*, but a large slab (Y, fig. 7), 5 feet 2 inches by 2 feet 11 inches by 10 inches, which lay 4 feet to the north-east, had most probably covered the cist. The soil yielded only small fragments of charcoal and an unworked flint.

Close to the outside of the ring, at the north-west side, lay a small cist (No. 5), 1 foot 8 inches by 1 foot by 9 inches, with axis pointing east-north-east (72° east of magnetic north). The cover measured 2 feet 4 inches by 2 feet 3 inches by 4 inches. This cist was paved with small stones towards the west and north-west, but contained no relics.

Seven feet to the east of this cist and also close to the outside of the

¹ Of flint: pointed flake, 1 inch by $\frac{1}{8}$ inch, showing signs of use; pointed flake, $\frac{5}{8}$ inch by $\frac{3}{8}$ inch, with slight secondary working; flake, $1\frac{1}{2}$ inch by 1 inch, with the bulb of percussion and signs of use; flake, $1\frac{1}{2}$ inch by $\frac{1}{2}$ inch, with signs of use; flake, $1\frac{1}{2}$ inch by $1\frac{1}{2}$ inch, with bulb of percussion, possibly a hollow scraper; flake, $1\frac{1}{2}$ inch by $\frac{1}{2}$ inch, with secondary working; flake, $1\frac{1}{2}$ inch by $\frac{1}{2}$ inch, showing flaking. Of chert: six flakes, $\frac{1}{2}$ inch to $1\frac{1}{2}$ inch in length, with no secondary working.

ring lay No. 6, a small cist measuring about 1 foot 4 inches by 9 inches by 9 inches; the south and east slabs, however, had been somewhat displaced. The axis pointed east (105° east of magnetic north). The cover measured 1 foot 7 inches by 1 foot 2 inches by 6 inches. In the soil in the interior was found the charred kernel of a hazel nut.

Three feet to the north of No. 3 lay cist No. 7, a small cist 1 foot 9 inches by 11 inches by 8 inches, with axis pointing north-north-west

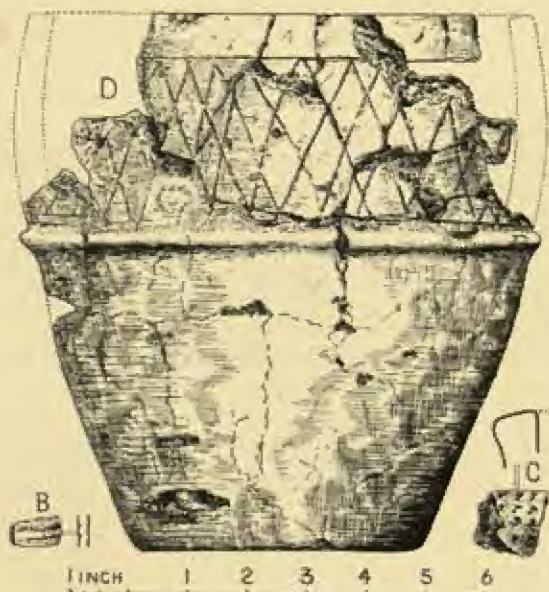


Fig. 9. Urn fragments from Drumelzier Cairn.

(13° west of magnetic north). The cover measured 2 feet 4 inches by 1 foot 3 inches by 5 inches. No relics were found.

Between cists 1 and 2 was a setting of stones, 1 foot 11 inches in diameter, on the original surface of the ground (No. 9). In the middle was a flat stone set as paving, on which was a small fragment of iron. A somewhat similar stone setting (No. 10) lay 2 feet to the north-west of cist No. 7. It was 1 foot 6 inches in diameter, and contained fragments of a cinerary urn (fig. 10, I). Midway between these two settings was an unusual setting of stones, which at first suggested a flue, but which had been partially destroyed, rendering its original purpose obscure.

As is shown on the plan (fig. 7) the secondary cists at the edge of the cairn have all been placed with their axes parallel to the adjacent periphery. An unusual feature is that most of the secondary interments have been made at the north side of the cairn, the south side being that

usually chosen. This may be due to the fact that the north and north-east part was farthest from the river.

The Relics.—Urn A (fig. 8), the beaker from cist 1, is of reddish-brown clay, $4\frac{1}{2}$ inches in height, $3\frac{1}{2}$ inches in diameter at the mouth, and 2 inches at the base. It has a high, almost perpendicular rim, and bears the impression of a twisted cord, which has been wound round it thirty-one times. Two similar urns have been found at Bathgate in Linlithgowshire and another in Aberdeenshire. These, however, are all larger in size. The closest resemblance to it is an urn from Drenthe¹ in Holland, which is almost identical in size, form, and decoration. An urn (fig. 9, B) is represented by a small fragment, $\frac{1}{4}$ inch thick, of another beaker, with two parallel, horizontal, incised lines. It was found in cist No. 1, at the

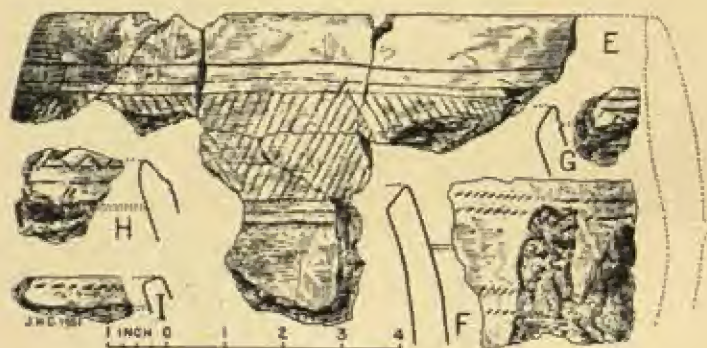


Fig. 10. Urn fragments from Drumelzier Cairn.

south side. Another (fig. 9, C) is represented by several fragments of coarse pottery, also found at the south side of cist No. 1. It is $\frac{3}{8}$ inch thick, slightly protruding outwards at the lip, where the thickness is $\frac{7}{8}$ inch. It is decorated with a dotted, somewhat Z-shaped impression. The type was described and figured by Mr Callander from Glenluce and Hedderwick, with the suggestion that it belonged to the late Neolithic or Overlap period.² Its occurrence here, associated with a beaker of early type, is in accordance with this suggestion.

The urn D (fig. 9), is reddish-brown in colour, and like the urns remaining to be described is a cinerary urn of the cordoned type belonging to the close of the Bronze Age. It measures 9 inches in height, the diameter at the mouth being $8\frac{1}{2}$ inches and at the base $4\frac{1}{2}$ inches. Above the cordon, which is placed $3\frac{1}{2}$ inches below the lip, is a diaper pattern of incised lines, edged with an incised line above and below. There is no ornamentation below the cordon. The urn lay on its side close to the

¹ Abercromby, *op. cit.*, vol. i. pl. i.

² *Proc. Soc. Ant. Scot.*, vol. lxiii. p. 90, fig. 55 (1928-29).

north of the large slab Y. The under side had completely disintegrated, and the upper side was so fragile that it had to be lifted with a large ball of earth beneath and packed into a box. After lying for some days to dry it was specially treated to harden it. By fitting the detached pieces into their places it was found possible to build up almost half of the urn.

The fragments of urn E (fig. 10) lay close to the west side of the slab Y, near the south-east corner of the small cist No. 7. It is of reddish-brown clay, and has been much larger than urn D, measuring $10\frac{1}{2}$ inches across the mouth. The whole of the lower part is wanting, but enough remains to show the form and design above the cordon, which is placed $3\frac{1}{2}$ inches below the lip. The decoration consists of a band formed of groups of twisted-cord impressions sloping alternately to right and left; the band is edged above and below by a double line, and above the upper



Fig. 11. Jet Armlet from Drumelzier Cairn. (1.)

pair is a single impression of a thicker cord, placed with the twist in the opposite direction to that of the two below.

Of the urn F (fig. 10) enough remains to show a double row of cord impressions immediately below the lip, and another double row $1\frac{1}{4}$ inch lower. The clay is coarse and reddish-brown. This urn was found with the fragments of the next two (G and H), mixed together close to the east side of the slab Y.

The urn G (fig. 10) is represented by a small fragment of rim with an inward bevel. Two incised lines run close to the lip, with apparently a chevron design below.

The urn H (fig. 10) shows an outward and an inward bevel of the lip. On the outward bevel are two incised horizontal lines, with a zig-zag above and an arrangement of sloping lines below.

The urn I (fig. 10) also is represented by only a small fragment of rim, square in section, with a twisted-cord impression close to the lip. The fragment was found within the small setting of stones, No. 10.

The fragment of a jet armlet (fig. 11) was found at X, close to urn E.

It is D-shaped in section, measuring $2\frac{1}{2}$ inches in length, $\frac{3}{8}$ inch in width, and $\frac{1}{2}$ inch in thickness. It retains a fine polish, and is ornamented with a series of grooves cut obliquely across it, apparently to suggest a cable design. At one end it is pierced by a small rivet-hole. The internal diameter has been $2\frac{1}{4}$ inches. Ornamented rings or armlets of jet are of great rarity. One was found in the fort at Castle Law, Abernethy,¹ having a cable design. It was of exactly the same diameter, but much smaller in section. A jet ring with a similar design but with an internal diameter of less than an inch was found at Traprain Law² in the second level. An armlet of the same type is recorded from a Romano-British site in Wiltshire.³ The whetstone measures $3\frac{1}{4}$ inches by $\frac{3}{8}$ inch in breadth and $\frac{3}{4}$ inch in thickness. It has been broken across and is much worn by use, being only $\frac{3}{8}$ inch thick at the broken end.

The ring-marked slab (fig. 12) measures 3 feet by 2 feet by 6 inches. It lay at the north side of the cairn (Z, fig. 7), outside the encircling ring, but may originally have been the cover of cist No. 2. On the upper side are five shallow ring-markings, four being double and one single. The former measure 3 inches to 4 inches in diameter, and the latter $1\frac{1}{4}$ inch. The figures are thus much smaller than in typical cup- and ring-marked stones, and the lines are only $\frac{1}{4}$ inch in width. The only similar markings known to me are on a slab which I found a number of years ago near the site of several former cairns and forts at Harelawside near Grant's House, Berwickshire. The stone is now in our Museum. Mr Callander informs me of another, not *in situ*, which has come to his notice on Ruthven Hill near Perth. Beneath the slab was a flake of calcined flint. So far as I know the only other example of cup- and ring-markings in Peeblesshire is on a large boulder at the side of the road in the valley of the Manor.

Professor Bryce's report on the bones found beside the cinerary urns is as follows:—

All the deposits are of small size and the bones are reduced to fragments too minute to yield data regarding age and sex. In one deposit only, that from urn D, could any evidence regarding the state of ossification of the skeleton be recovered. In this one entire phalanx was found, and as the epiphysis is united, it can be concluded that the individual had passed the twentieth year before death, and had probably reached full adult age.

Professor Wright Smith reports that all the charcoal found was that of the oak tree.

It is clear that the site of this cairn had been used as a place of burial very early in the Bronze Age, and also at a time near its close. Some of the cists may represent an intermediate period, but being devoid of relics

¹ *Proc. Soc. Ant. Scot.*, vol. xxxiii, p. 30 (1898-99).

² *Ibid.*, vol. lviii, p. 271, fig. 15, No. 37, p. 259 (1923-24).

³ *Wilt. Arch. Mag.*, vol. xxxv, p. 406, fig. 27.

their period cannot be affirmed. The finding of a fragment of iron and of the jet armlet, an ornament usually attributed to the Early Iron Age, may indicate the transition period. The iron, on the other hand, may have been introduced at the time of the disturbance, of which there was surface evidence; but it is less likely that the armlet was left at such a time. It may be that the peculiar type of ring-markings is a decadent form dating from the transition period.

Traces of other early remains lie close to the site of this cairn. On a knoll 120 yards to the north are the remains of a low rampart of stones, 10 feet wide and only about 1 foot in height, enclosing an area measuring



Fig. 12. Ring-marked Slab, Drumelzier Cairn ($\frac{1}{15}$).

120 feet north and south by 110 feet east and west, the northern part of which lies within a modern rectangular sheepfold (C, fig. 4). Within this enclosure, near its south side, is a circular mound 30 feet in diameter formed of soil thrown from a surrounding trench 2 feet in depth, above the bottom of which the mound rises from 3 to 4 feet. Still farther to the north, outside the sheepfold and 50 yards north-north-east of the cottage, is a circular area (B, fig. 4) 42 feet in diameter, from which a cairn has evidently been removed.

On the occasion of my visit to plan the site on 18th February 1931 my attention was drawn by Mr Farquhar to a short trench which lies 5 yards to the left of the road some 350 yards before it reaches the ford. This trench measures 54 feet in length by 10 feet in width and 2 feet in depth, and is surrounded by a low mound, which curves neatly round either end. This is evidently a flax dam, formerly used for *retting* flax or "lint." No water-supply was apparent, but Mr Farquhar informed me that a copious

supply from a spring called Pickers' Well lies some 340 yards to the east-north-east, at a higher level on the hillside. This name is shown on the 6-inch Ordnance Survey Map, and proves the purpose of the trench, for which it undoubtedly supplied the water needed by the lint-pickers. It is less than a hundred years since the growing of flax as part of the "hinds' gains," or farm-servants' payments in kind, completely died out in the Borders, although the custom was being discontinued towards the end of the eighteenth century.¹

By the kindness of Mr W. J. W. Nicol of Netherurd all the relics from the cairn, including the ring-marked stone, have been presented to the National Museum of Antiquities of Scotland.

I have to express my indebtedness to those already mentioned and to the following for help in the work of excavation: Messrs W. D. MacColl, W. W. T. Hannah, P. Kennedy, T. Mitchell, A. G. Jackson, G. R. Gair, F. McGovern, L. Maclaren, H. A. Craw, W. A. Craw, Professor Hannah, Lieut.-Colonel L. M. Davies, and Misses I. R. Henderson, M. E. C. Mitchell, M. E. Simpson, A. Smith, and A. Blackie.

¹ See Gibson's *An Old Berwickshire Town*, p. 218.

III.

NOTE ON EARLY CROSS-SLABS FROM THE FAEROE ISLANDS.

By P. M. C. KERMODE, F.S.A.Scot.

On my way to Iceland last summer and again on my return I was able to spend an hour at Thorshavn, the capital town of the Faeroe Islands. It was an unexpected pleasure to hear that there was a Museum there, and on visiting it I was surprised to find some slabs bearing crosses of early form. As I had but little time, I asked Mr M. A. Jacobsen, the Curator, to make rubbings of these and send them on to me. This he willingly did, and added a set of photographs which showed also the general character and appearance of the basaltic rock of which they were made. On the boat I had made the acquaintance of Mr J. Patursson of Kirkjubö, from whom I learned that similar cross-slabs had been found there. Later on, he was good enough to send me a rubbing of one of these.

On my return home I got into communication with the National Museum, Copenhagen, expecting that they would have a record of these monuments and of their history. Dr Nörlund replied, however, that he only knew of them from photographs, and that they had not been published; but he told me of two others now in the National Museum, of which he sent photographs, with permission for me to make use of them for this note. He kindly sent me also a copy of his most interesting account of excavations and the discovery of the buried Norsemen at Herjolfsness, in the S.W. of Greenland.¹ This included the figure of a large granite slab which he thinks would date from not earlier than the thirteenth century. It bears an incised cross enclosed within an elliptic figure, on the upper portion of which are faint remains of an inscription. The main inscription, in two vertical lines down either side of the cross, is almost perfect, but the last letters broken off, and reads,—HERHUILIR: HRO(AR) KOLGRIMSS(ON) [*Here rests Kolgrimsson*]. The Cross shows in form the upper limb rather longer than the arms, and the shaft about two and a third times the length of the head. The limbs expand in a sharp curve at the ends, the lower one now broken. In a footnote this is compared with a cross "on a tombstone from Frodebö in the Faeroe Isles (now in the National Museum, Copenhagen)."² Two small headstones are also figured showing crosses of very primitive

¹ *Meddelelser om Grønland*, Bind lxxvii. pp. 193, 194, and 196, figs. 138, 140.

² With respect to this reference, Dr Nörlund writes to me that Frodebö had been quoted in error, and he finds that it should have been Skuö.

form; together with a remarkable series of small wooden crosses found in the graves.

In my fig. 1, I give outline drawings made from the rubbings received,

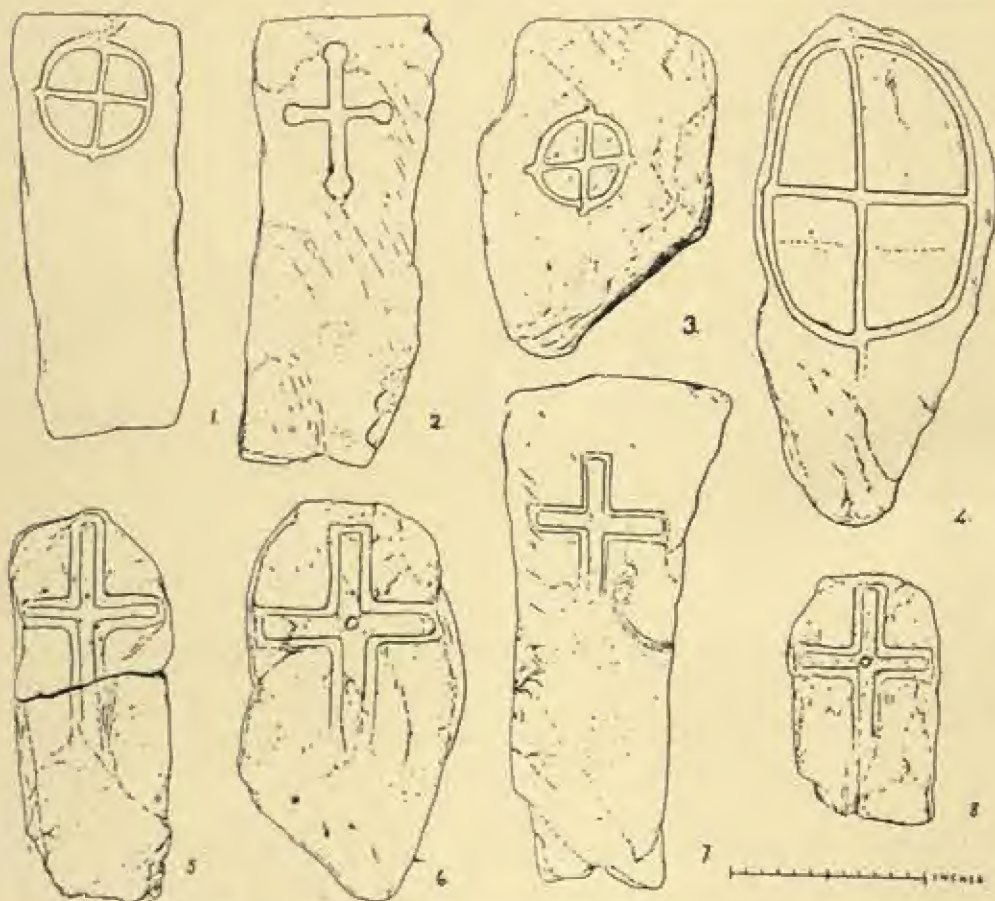


Fig. 1. Cross-slabs from Skuö, but No. 1 from Kirkjubö.

and here reduced to about one-twelfth the original size. All are headstones made of the local basaltic rock and, excepting for the design which appears on one face only, undressed and untouched by a tool. Four of the crosses are linear, the rest drawn in outline with shallow lines, U-shaped in section, about half an inch wide, but, in two examples, reaching a width of one inch. The largest slab, No. 4, measures about 31 inches by 14 inches, the smallest, No. 8, 15 inches by 9½ inches. The thickness averages 3 to 4 inches. No. 1 is from Kirkjubö; the others, now

in Thorshavn Museum, are from Skuö. Their general character is that of early cross-slabs in the British Isles.

Fig. 2 shows the one from Skuö, now in Copenhagen, a rectangular

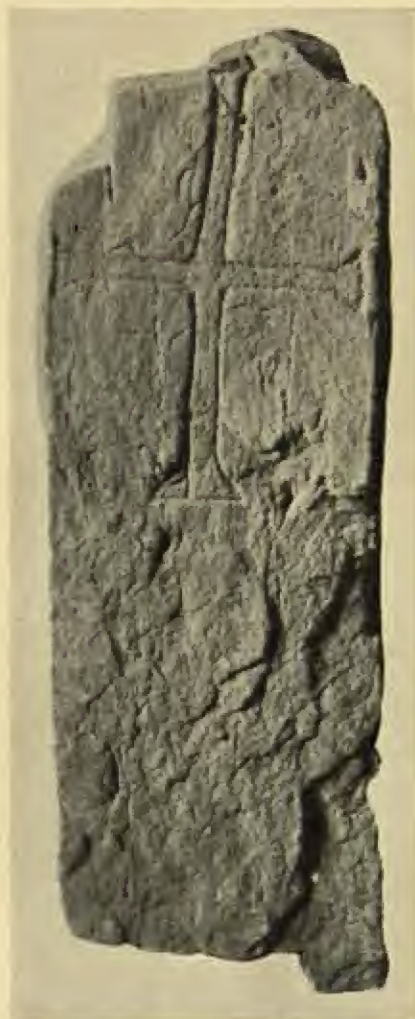


Fig. 2. Cross-slab from Skuö, Faeroe.



Fig. 3. Cross-slab, locality unknown.

slab having the corners broken off, bearing an outline cross with expanded ends to the limbs, a form recalling early slabs at Clonmacnois and Hartlepool. Fig. 3 is that of uncertain provenance in Copenhagen, with a plain Latin cross in outline encircled by a linear ring. These, like the other Faeroe slabs, are of basalt.

For comparison, I add as my fig. 4 the recumbent slab of granite figured in *Meddelelser om Grönland*, the measurements of which are given by Dr Nörlund as 114 cm. by 48 and 14 cm. in greatest thickness; together with the two small headstones referred to.

I am indebted to Mr Patursson and Mr Jacobsen for particulars of



Fig. 4. Recumbent Grave Slab and two Head-stones from Greenland.

the finding of these interesting relics. Kirkjubö, where the slab No. 1 was found in the cemetery, close to the oldest church-wall, is at the southern end of the large island of Stromo, and about $4\frac{1}{2}$ miles south of Thorshavn. Here was the seat of the bishopric established in the islands in the twelfth century. By the end of the century the building of a cathedral was begun; but before it had been completed a change in religion caused it to be abandoned, and the unfinished walls remain to this day. The site was evidently convenient for the purposes of a cathedral, but the question suggests itself whether there was no other

reason for its choice. Could it have had Christian associations with an earlier period? Possibly further excavation may yet reveal an inscription or some definite clue to its original foundation and the date of the first Christian burial.

Skuö is the little island off the S.W. of Sandö, and about twenty miles S. of Thorshavn. At Olansgardur was a landing-place and a cemetery supposed to date from the end of the tenth century. It was here that Sigmund Brestesson had his homestead. Sigmund's father had been murdered by Thrond of Gata and himself escaped as a boy to Norway. He was persuaded by Olaf Tryggvason to be baptized, and, upon his agreement to christianize the Faeroes, was supported by him and confirmed in his title to the lordship of the isles. About the year 1000 he built a church close to his homestead. But Thrond opposed the introduction of Christianity and the interference of Norway in the Faeroes. In 1002 he attacked Sigmund, who only escaped with his life by swimming, with his cousin Thore, to Sudrey, six or seven miles to the south. Thore died from exhaustion and Sigmund was found on the shore and killed in his sleep. Some years later, when this became known, his murderers were hanged by Thrond and the bodies of Sigmund and Thore brought for burial to Skuö, where their graves are marked by a large stone bearing a cross. After the terror of the "Black Death," which, in the middle of the fourteenth century had reached Norway and the Faeroes, the place fell into disuse. In 1909-10 a new cemetery was made on its site, and an area rather smaller than the original was walled around. In the clearing and draining loose stones were met with and old coffins with wooden nails, at a depth below the surface of about 18 inches. These graves were in the east section and lay N.W. to S.E. Here two of the slabs were met with, No. 3 at the S.E. corner inside the old wall and about 4 feet deep, and No. 4 in the middle of this section.

In 1921-2, when digging in the west section close to the wall and near to Sigmund's stone, four more slabs were brought to light, lying face upwards in the clay subsoil at a depth of about 18 inches E. and N. of Sigmund's stone. Further north other slabs were found, which are not yet in the Museum.

Fig. 2, from Skuö and now in Copenhagen, measures about 34 inches by 12½ inches; one face bears an incised outline cross having expanded ends to the limbs, the upper end broken off. Fig. 3, the other slab in Copenhagen Museum, measures about 22½ inches by 16 inches, tapering below to a bluntly pointed end. Of this Dr Nörlund informs me, "We do not know anything about it with certainty." Fig. 4 is taken from his illustration of the Greenland Slab inscribed with the name Kolgrimsson, here shown for comparison as exhibiting a form of cross

of the same general type, and I add his figures of the two very primitive-looking headstones from Greenland.

The first of the slabs seen by me were those on fig. 1, numbered 2, 3, and 4. Their rude simplicity impressed me at once with their general Celtic character, and suggested the possibility of relics from the time of the first Christian missionaries to the Faeroes. The Greenland pieces, however, dated as late as the thirteenth century, show that when the Norse folk had become Christian, they were conservative in their regard for that early sepulchral art with which they had come into contact in the British Isles; and the question arises whether those now figured may not be as recent as the time of Sigmund Brestesson's re-introduction of Christianity. Some more certain evidence of date may yet come to light. In the meantime it seems worth setting these on record, and is of great interest to find that the sepulchral art developed in our Celtic Church should have extended beyond our borders so far to the north and have been practised by a people of a different race.



Fig. 5. Cross-slab from Svinö Church, Norderey.

Since the above was written I have received from Dr Nörlund a copy of a drawing, dating from 1828, recently found by him in the archives of the National Museum. This he gives as "representing a slab from Svinö Church, Norderey, Faeroes." Here given as my fig. 5, it is interesting as an addition to the series, and particularly as introducing yet another site.

Attention might be drawn to *Proceedings*, vol. lv. p. 134, where Mr Kirkness figures an incised slab from Papa Westray, Orkneys, bearing a simple linear cross, in which, however, the expanding ends take the form of crescentic terminations to the arms.

IV.

THE RECONSTRUCTION OF BRAEMAR AND CORGARFF CASTLES, 1746.

By JOHN MALCOLM BULLOCH, LL.D., F.S.A.Scot.

Dr Douglas Simpson has dealt at great length with the buildings of these barracks after the '45 (*Proceedings Soc. Ant. Scot.*, 1926: lxi. 48-103). Further details about the cost of these structures are contained in an Ordnance Expense Ledger, preserved at the Public Record Office, (W.O. 48; 254; pp. 114, 153, 200, 212, 284). The details are scattered over different pages. I have arranged them chronologically:—

1748-9, Feb. 4.	John Adams for repairs at "Brae Marr" Castle	£1265	0	0
1749, Mar. 13.	Col. David Watson empowered to pay George Forbes, Esq., £150 and £50 for lands etc. [at Corgarff?]	200	0	0
1749, May 24.	Alex. Peter for beds to Braemar and Corgarff	64	4	0
1749, Sept. 30.	George Fern for work at Braemar and Corgarff	5	9	8
1749, Sept. 20.	John Adam for work at Braemar	42	9	0
1749, Dec. 1.	Barrack beds at Braemar and Corgarff	48	18	4
1749, Dec. .	Thomas Leslie for keeping beds [at Braemar and Corgarff] in order	28	10	0
1750, Mar. 31.	David Lyon rent of Braemar Castle	14	0	0
1750, June 30.	Thomas Leslie for beds to Braemar and Corgarff	63	10	0
1750, July 1.	George Leslie for stoves at Braemar and Corgarff	93	14	9
1750, Sept. 30.	John Adam for mason-work at Corgarff from June 1, 1748	124	1	5
1750, Sept. 30.	John Adam for mason-work at Braemar from May 1, 1748	214	5	0
1750, Sept. 30.	James Wilson, blacksmith-work at Braemar	16	0	0
1750, Sept. 30.	John Adam, mason-work at Corgarff	124	1	5
1750, Sept. 30.	John Adam for work at Braemar	214	5	0
1750, Dec. 31.	Lt.-Col. David Watson for purchase of Corgarff Castle and land	231	0	4
1750, Dec. 31.	Thomas Leslie for beds	28	10	0
1751, Dec. 31.	Charles Tarrant, overseer	11	10	0
1751, Dec. 31.	Henry More, overseer	55	0	0
1751, Dec. 31.	Thos. Walker, overseer	55	0	0
1752, Jan. 30.	John Leslie for repair of beds at Braemar and Corgarff	31	15	0
1752, Jan. 30.	John Leslie for conveniences at Braemar and Corgarff	100	0	0

I may say that John Adam, George Fern, Henry More, Charles Tarrant, and Thomas Walker, were not local tradesmen. They were also engaged at Fort George and elsewhere.

It was in 1748 that the Farquharsons of Invercauld gave a 99 years' lease to the Crown of Braemar Castle and fourteen acres at £14 sterling a year. When the soldiers left it is not clear. But it fell into bad repair and the question came up before the Board of Ordnance in 1807, when difficulties occurred about the terms of the agreement with the Government which I have not been able to find. On 8th May 1807, the Board of Ordnance wrote to Lt.-Gen. Morse (W.O. 55; 818):—

"Sir,—Lieut.-Gen. Sir Charles Ross of Balnagowan having on the part of Mr James Farquharson, the proprietor of Braemar Castle [his brother, who had married Catherine Farquharson, the heiress of Invercauld and had adopted her name], consented to the stipulation in which that building was to be given up, and requested that the relinquishment might take place on Whitsunday next. I have the Board's commands to desire you will communicate the above to the commanding Royal Engineer of Scotland in person on the part of the Ordnance to meet the gentleman to be appointed by Mr Farquharson for the purpose of ascertaining the state of the Castle at the time when it is delivered up, of which an account must be sent to the Board."

The "Commanding Royal Engineer" at the moment was Captain Birch, at Fort George, and he arranged for Captain Cardew, on 25th May 1807, to meet "the person appointed by Captain Farquharson, and to examine and report on the Castle." I do not know the name of Farquharson's representative, but Cardew sent in a very interesting account of his inspection as follows:—

Ground floor.—This consists of a black hole, a small stone room and dungeon, which are in a tolerable state of repair.

1st floor.—consists of two apartments, viz. one large room and one small ditto. The rooms are exceedingly damp, and I am informed the rain is admitted at the chimnies and even the walls. The plastering is broken in some places and the floor partly decayed. There are no locks on the inside doors and some of the glass is broken.

2nd floor.—consists of two similar apartments to those above. These are in a worse state than those on the first floor both with respect to the floors and plastering.

3rd floor.—consists of two similar apartments. These are in much the same state as the first floor, with the addition that the ceiling is cracked in many places.

4th floor.—consists of two similar apartments. The large room is in the same state as that on the first floor, but the small one is in good condition.

Turrets.—The turrets admit the rain which has quite destroyed the floors, and the doors are unserviceable.

Staircase.—The steps of the staircase are many of them out of repair.

Roof.—The slating of the roof is entirely gone, but the timbers are sound.

Walls.—There is a slight crack in the east side of the castle wall, which goes nearly from the top to the bottom of the building, but by inquiry I find it has been in the same state for twenty years past. The rough casting on the outside is in a bad state and in many places quite gone. The surrounding wall is cracked in three different places and the east side is likely to come down unless speedily repaired.

General Observations.—It appears evident that the great defect of the inside of the building has been produced from the roof being unsound and the rough casting on the outside of the wall being in many places taken off by the frost; and, if the building is not made weather-proof by reslating the roof, serious consequences are to be dreaded. From the excessive damp it is now scarcely habitable.

The chimnies, too, smoke to such a degree that the whole of the apartments are quite black with it.

The vague character of the agreement between the Farquharsons and the Government is indicated in the covering letter by Birch (7th June 1807), who said that the report would be signed by Farquharson at Edinburgh:—

“I, in consequence, applied to Captain Farquharson to do so, but he being on the point of leaving for Braemar, he wished to take the report with him to verify it and, if he found it correct, he said he would transmit it to the Board with his signature joined to that of Captain Cardew. He, Captain Farquharson, finds occasion to enter into some correspondence with the Board on the subject of the present state of the Castle, which from its having been suffered to fall so much into ruin, contrary to the former agreement, he thinks he cannot be expected to put it into a state of repair and retain it in the same agreeable to the present agreement, which when he entered into he was not aware of the state of the Castle.”

What the upshot of it all was I do not know, for there seems to be no more correspondence in the Ordnance papers about the subject.

MONDAY, 13th April 1931.

THOMAS YULE, W.S., Vice-President, in the Chair.

Before proceeding with the ordinary business of the meeting the Chairman referred to the death of Mr Victor A. Noel Paton. It was decided that the Society should record their deep sense of the great loss they had sustained through his death and their sympathy with his family. The Secretary was instructed to forward an excerpt of this Minute to his daughters, Mrs Meldrum and Miss Noel Paton.

A Ballot having been taken, the following were elected Fellows:—

RONALD CARSWELL, L.R.I.B.A., 17 Salisbury Road, Edinburgh.

WILLIAM CAMPBELL LAURIE, 3 Glenmarkie Terrace, Dundee.

DONALD S. MACKINNON, 1 Royston Terrace, Edinburgh.

MURDO MACLEOD, The Schoolhouse, North Tolsta, Isle of Lewis.

W. LINDSAY SCOTT, D.S.C., B.A., 7 Lambolle Road, Hampstead, London, N.W.3.

W. N. SIMPSON, 31 Broomley Drive, Giffnock, Renfrewshire.

The following Donations to the Museum were intimated, and thanks voted to the donors:—

(1) By the Misses MIDDLETON, 23 Caledonian Place, Aberdeen.

Wooden Lock with large smiddy-made iron key, the pipe formed of sheet iron turned over and welded, from Mill of Kineraigie, Coull, Aberdeenshire.

(2) By EDWARD WHITTON, 56 South Trinity Road, Edinburgh.

Bronze Medal struck to commemorate the Naval Review at Spithead, and distributed by the Union Castle Line to those on board the S.S. "Braemar Castle." *Obv.* Crowned heads of King Edward VII. and Queen Alexandra, with KING EDWARD VII., QUEEN ALEXANDRA, round edge. *Rev.* View of S.S. "Braemar Castle" in centre, and THE UNION CASTLE LINE, 28th JUNE 1902, round edge.

(3) By Mrs GLENDINNING, 118 Mayfield Road, Edinburgh.

Wooden Nut-crackers, in the form of the grotesque head of a man. Carved on each side is a dragon, and on the back a grotesque face.

(4) Bequeathed by Miss FLORA SPALDING of the family of Ashintully and Glenkilry.

The Spalding Banner, of yellow silk, measuring 5 feet 4 inches in length and 3 feet 5½ inches in breadth, bearing in the centre the

Spalding of Glenkilry coat of arms—Argent, a sword in pale azure. On a helmet befitting his degree having a mantling gules doubled argent, upon a wreath of his liveries is set for crest, a gateway jambs argent, voussoirs azure, and portcullis gules. Over, the motto *Nobili servitium* and initials A. S. The date is probably 1680–1700 A.D. The family tradition is that it belonged to Andrew Spalding of Glenkilry and was carried in the risings of '15 and '45. (*Notes concerning the Family of Spalding*, p. 145.)

(5) By THOMAS RUSSELL, 10 North Bank Street, Edinburgh.

Banner of the Edinburgh Brushmakers, measuring 4 feet 11 inches by 4 feet 6 inches, of light-coloured silk. In the centre are the arms and crest of the craft; above these is the inscription WEEL STAND TO OUR RIGHTS AND SUPPORT OUR NEW PLAN | LET ANY MAN SAY WEER WRONG IF THEY CAN, and below EDINBURGH BRUSHMAKERS, all painted. The maker's name is John West, London.

(6) By The Right Hon. The EARL of HOME, K.T., LL.D., F.S.A.Scot.

Two Cinerary Urns, found on the site of a cairn at Lintlaw, Bunkle, Berwickshire. (See previous communication by J. Hewat Craw, F.S.A.Scot.)

(7) By W. J. W. NICOL of Netherurd.

Beaker and fragments of other urns, flint implements, fragment of jet or shale armlet, and part of a whetstone, from a cairn at Drummelzier, Peeblesshire. (See previous communication by J. Hewat Craw, F.S.A.Scot.)

(8) By Colonel A. J. MACDOUGALL OF MACDOUGALL, C.M.G., of Dunollie, Oban.

Blanket, spun and woven at Dunollie in the eighteenth century. It is bordered by two narrow brown stripes, and in each corner is a floral pattern in pink, brown, and yellow worsted. Sewn on it is a tag, marked Dunolly N^o 7.

(9) By Miss E. M. DAVIDSON of Cantray.

Sundial, of grey sandstone, of the lectern type, with dials on one face showing the time at Cantray, Pekin, Goa, Rome, Jerusalem, and Cairo, on another face at Naples and Syracuse, on the top at Ozaca and Troy, on one side at Smyrna, and on the other at Bengal and Paris, with the monogram D. D. (David Duncan) and date 1781, which seem to have been cut later than the other inscriptions. From Cantray, Croy, Inverness-shire.

It was announced that the following Objects had been purchased for the Museum:—

Collection of relics found in the Sculptor's Cave at Covesea, Morayshire. (See previous communication by Miss Sylvia Benton, F.S.A.Scot.)

Wooden Baton, measuring $8\frac{1}{2}$ inches in length, painted brown, and bearing near one end the royal initials G. R./III with a crown above in gold and colours.

Flint-lock Spring-gun with bell-shaped muzzle, measuring 17 inches in total length. There is a hinged pin underneath for fixing the gun to a peg and a horizontal bar fixed to the trigger at one end and a loop at the other for attaching it to a chain or rope. Such guns were used as well as man-traps to protect game and orchards.

Brass Seal, in a wooden handle, showing a saddler's crescentic knife with a crown above, and the date of the foundation of the incorporation, 1582, below in the centre, and the inscription INCORPORATION OF CORDINERS EASTER PORTSBURGH, round the edge.

Lead Button with the crowned head of a king with long hair and beard on the front, the loop behind being cast in one piece with the button. Found recently near the curling pond at the extreme south end of the Green at St Boswells.

The following donations to the Library were intimated and thanks voted to the Donors:—

(1) By Dr A. MAHR.

Report on the National Museum of Ireland, 1928-29. Dublin, 1931.

(2) By W. DOUGLAS SIMPSON, D.Litt., F.S.A.Scot.

General James Grant of Ballindalloch, 1720-1806. Published privately by Alastair Macpherson Grant, 76 Cadogan Place, London. London, 1930.

(3) By THE COMMITTEE.

Catalogue of a Loan Exhibition of Scottish Art and Antiquities at 27 Grosvenor Square, London. 5th February to 1st March 1931. London, 1931.

(4) By Monsieur Z. LE ROUZIC, the Author.

Carnac. Restaurations faites dans la région: Les Cromlechs de Er-Lannic, Commune d'Arzon. Vannes, 1930.

(5) By RICHARD QUICK, F.S.A.Scot.

Bulletin of the Russell-Cotes Art Gallery and Museum, Bournemouth. Vol. x., No. 1. March, 1931.

- (6) By HENRY GEORGE FARMER, M.A., Ph.D., F.S.A.Scot., the Author.

Music in Mediæval Scotland. London, n.d. [1931.]

- (7) By ROBERT MURDOCH LAWRENCE, F.S.A.Scot., the Author.
A Philatelic Souvenir. Aberdeen, 1931.

- (8) By THE SECRETARY, MANX MUSEUM.
Journal of the Manx Museum. Vol. ii., No. 26. March, 1931.

- (9) By THE NORTH OF ENGLAND EXCAVATION COMMITTEE.
Third Report for the years 1929-30.

- (10) By THE DIRECTOR.
Bulletin of the Museum, Valletta, Malta. Vol. i., No. 2. 1931.

- (11) By Monsieur LÉON COUTIL, Honorary Fellow, the Author.
L'Art Mérovingien et Carolingien.

- (12) By THE UNIVERSITY COURT, University of St Andrews.
Copiale Prioratus Sanctiandree. The Letter-Book of James Haldenstone, Prior of St Andrews (1418-43). Transcribed and edited, with an Appendix of Documents illustrating Scottish History from 1378-1450, by James Houston Baxter. Edinburgh, 1930.

- (13) By HIS MAJESTY'S GOVERNMENT.
Register of Edward the Black Prince, preserved in the Public Record Office. Part ii. (Duchy of Cornwall) A.D. 1351-65. London, 1931.
Journal of the Commissioners for Trade and Plantations, from January 1734-35 to December 1741. London, 1931.

- (14) By THE DIRECTOR OF THE ROYAL SCOTTISH MUSEUM.
Report for the year 1930, by the Director, on the Royal Scottish Museum, Edinburgh. Edinburgh, 1931.

The following Purchases of Books for the Library were intimated:—

Acta Archæologica. Vol. i., Fasc. 3. Copenhagen, 1930.

The Illustrated Gaelic Dictionary. Compiled by Edward Dwelly, F.S.A.Scot., F.S.G.

The Significance of the Peking Man. By Professor G. Elliot Smith, M.A., M.D., D.Sc., Litt.D., F.R.S. Edinburgh, 1931.

The following Communications were read:—
VOL. LXV.

I.

SOME FURTHER NOTES ON THE TRAPRAIN LAW TREASURE.

By A. O. CURLE, C.V.O., F.S.A.Scot.

In 1928 I brought to the notice of the Society the occurrence in a late Roman inscription on a memorial stone, preserved in the Museum of the Carmarthenshire Antiquarian Society in Wales, of the curious letter which appeared twice in the punctuated inscription surrounding the base of the neck of the small silver flask in the Traprain treasure. For the knowledge of the existence of that inscription and letter I was indebted to Professor Macalister of the University of Dublin, and now I am placed under a further obligation to Professor Macalister for drawing my attention to a second occurrence of this same letter on another inscription on a memorial stone, also in Wales. This second stone is preserved in Clydai Church in the county of Pembroke, and bears a memorial inscription in both Latin and Ogham, while at a later date the stone has been appropriated for another memorial and there has been carved on its surface an equal-armed cross within a double circle with, apparently, a shaft indicated by two parallel grooves partly obliterating the Latin inscription. The Latin inscription is said to read DOBIT (VCI) FILIUS EVOLENG, and the symbol of peculiar interest to us is the initial letter of the word Filius. The stone is described, and illustrated from a drawing, in the *Report of the Royal Commission on the Ancient and Historical Monuments in Wales, etc. (Pembrokeshire)*, p. 75, fig. 103. The peculiar feature of the letter is little more than indicated in this illustration, but it is somewhat more clearly expressed in a reproduction from another drawing in fig. 1 of an article entitled "Epigraphic Notes" by the late Sir John Rhys in *Archæologia Cambrensis*, vol. xiv. fifth series; but the inscription has been personally examined by Professor Macalister, who has no doubt of the character of the letter. Thus beyond the shadow of a doubt the Traprain inscription must be transliterated FRUMIACOEISIAFICT. That this particular form of the letter F should thus far only have been found surviving in late Latin inscriptions in the principality of Wales is remarkable, but that fact alone is hardly sufficient to justify the attribution of the inscription to that region.

To anyone who may desire to probe further into the mystery of the treasure the following articles may be of interest.

"Niall of the Nine Hostages," in connection with the Treasure of Traprain Law and Coleraine," by Professor Sir William Ridgeway, D.Sc.,

F.B.A., in the *Journal of Roman Studies*, 1924. Professor Ridgeway in this article sets himself out to prove from literary and numismatic evidence that the treasures of Traprain and of Coleraine in Ireland were booty brought back from Gaul by one of the followers of Niall, Naoeghiallach, after that king had been slain by Eochaidh, the banished king of Leinster, on the side of the Loire, about the year A.D. 405, as related in the *Annals of the Four Masters*.

"L'expédition de Niall aux neuf Otages au Gaule et le Trésor de Traprainlaw," par M. Joseph Loth, Membre de l'Académie, *Comptes rendus de l'Académie des Inscriptions de l'Année 1926*. Bulletin Avril-Mai. M. Loth gives reasons for believing that the legend of the expedition of Niall to Gaul, and even into more distant countries, has no historical basis, but has arisen from a confusion and corruption of certain names. He inclines also to the belief that the treasure was the fruit of plundering by Picts or Scots in Britain itself, and he explains the presence of the personal relics, for which I have claimed a Visigothic attribution, as having belonged to some Roman auxiliary serving in Britain.

Germania, December 1925, contains an important article on the treasure by the late Professor F. Drexel. Among the points to be noted are Dr Drexel's interpretation of the four groups surrounding the body of the flagon, enriched with scenes from Holy Writ. The Fall of Man, the Adoration, and Moses striking the Rock are obvious. The fourth scene, which has always been in doubt, he declines to regard as the Betrayal, and believes to be the Oppression of Moses or the Intimation of the Denial. Interesting is the observation that there is nothing definite to disprove that the vessels formed part of the household furnishings of a Roman or a Roman provincial. To an original outfit of table silver all kinds of provincial utensils might have been added, presenting an analogy in this respect to the treasure of Hildesheim belonging to a period several centuries earlier, whose owner had similarly substituted all sorts of provincial vessels for those originally brought from Rome.

Among minor points to notice are the definite identification, from parallel finds, of the bronze disk as a tag for the end of a girdle and not as a mirror. The parallels have all been found on the Middle Rhine. And in regard to the associated articles of personal use in the treasure, Drexel suggested that these objects were more probably to be connected with the Teutonic Migrations which overflowed the Rhine boundary at the commencement of the fifth century than with the Visigothic invasion.

An article by Professor R. Zahn "On Two Late Classical Silver Vessels," in *Amtliche Berichte aus den Königlichen Kunstsammlungen*,

Berlin, August 1917, illustrates (Abb. 96) a beaded bowl of silver, seemingly identical in form with those found at Traprain Law, but bearing a stamp on the bottom which is said to date it to the last third or quarter of the fourth century A.D. The article contains much information generally about this type of bowl. The other silver vessel dealt with is a ewer or flagon which presents certain parallels to some of the similar vessels from Traprain Law.

II.

THE ROMANNO TERRACES: THEIR ORIGIN AND PURPOSE. BEING THE CHALMERS-JERVISE PRIZE ESSAY FOR 1930. BY W. W. T. HANNAH, THE WHIM, LAMANCHA.

Scattered throughout the Lowlands of Scotland are several groups of ancient terraces, which make prominent features of the landscapes in which they are found. Even the most casual observer cannot fail to be impressed by them; and the purpose that they served has from early times called forth discussion. There are some who, judging from the clear-cut appearance of the terraced groups, consider them but a few centuries old, and there are others who think that they date from the first centuries of our era, or even earlier. Peeblesshire is particularly rich in these formations, and the terraces at Romanno are one of the best examples in the county.

Situated on the east bank of the Lyne Water, about half a mile south of the hamlet of Romanno, in the parish of Newlands, these terraces have a westerly aspect and slope up to the Pendreich hill-fort at the summit, which, however, is not immediately over them: this group is nearly enclosed by trees of recent planting, there also being traces of earlier on the same site. The slope is steeper than that of any other series of terraces in Peeblesshire and the adjoining counties, and as the hill bends outwards their lines follow its natural course.

Concerning the number of the terraces, however, there is considerable variance of opinion. Dr Pennicuik,¹ one of the earlier historians of the county, states that there are eleven or twelve, while William Chambers² discovers fourteen, and even now this latter number is certainly not an over-estimate. The upper thirteen terraces remain in an almost perfect state of preservation; the fourteenth, however, has been partially removed by the excavating of a small quarry; for the cup-shaped declivity must without doubt have been a quarry, as there is

¹ *A Geographical and Historical Description of the Shire of Tweeddale*, 1715, p. 16.

² *A History of Peeblesshire*, 1864, p. 41.

a convenient gate leading from it into the road, which otherwise would be useless.

Further terraces, if any existed, have been irrevocably destroyed by the construction of the road from Romanno to Peebles, but between the fourteenth terrace and this road there is distinct evidence of what was very probably the southern end of another. Below this, all traces of further terracing become very indefinite; however, in the belt of trees below the thoroughfare there are the remains of what would undoubtedly be the last terrace, unless it was merely formed by the inevitable banking up for the road foundations.

The terraces rise from the 700-foot level to a little over the 800-foot contour, and the total slant height is about 250 feet, the lengths of the terraces varying from 315 feet at the foot to 420 feet at the top. The longest terrace is roughly 490 feet, though the upper ones may have extended for a score or more feet at either end, of which any trace would have been obliterated by the growth of two or three generations of trees. This, however, would have been made difficult on the south by the presence of living rock, and also does not apply to the lower terraces, as they end in two well-formed furrows, which widen out as they grow higher. William Chambers stated a possibility when he said that a portion of the terraces has been unfortunately destroyed by ploughing, but the large slope stretching to the south and the triangular-shaped area at the north-west corner, bounded by the road, the plantation, and the furrow, appear never to have been terraced; the latter possibly was sufficiently level for ordinary cultivation.

Despite William Chambers' statement to the contrary, only two of the terraces converge, and this is probably due to one of these ridges having been gradually worn down at the southern end and made to coincide with another immediately below it, consequent on its later use as a cart-track which can easily be followed along the hillside towards Newlands. The presence of the latter may have given rise to the impression gained by Gordon when he says that the terraces "extend for a whole mile, not unlike a large amphitheatre."¹ However, it is impossible to trace any connection between this group and the two smaller groups—one in the Moat Wood, a mile or so to the north of Newlands Church, the other about a mile further down the Lyne Water. The width of the individual ridges varies from 6 feet to 12 feet, the former being the breadth of the fifth, and the latter that of the sixth, terrace. The maximum vertical height is that between the thirteenth and the fourteenth terraces, and is roughly 26 feet, but the average is about 8 feet.

¹ *Itinerarium Septentrionale*, p. 114.

At Romanno, an excavation was made into one of the terraces to a depth of 5 feet, and into the slope to a width of 4 feet. The soil was free and loamy and easily dug. Contained in it were a fair number of angular stones apparently of local origin; when loose blocks of rock were occasionally encountered they were small, and none showed ice markings. After a depth of 2 feet the soil became more sandy, and showed a distinct similarity to the material at the surface of the unterraced ground further to the south. However, there was no trace of the tough, tenacious boulder clay, and the terraces appear to have been made of the material known as surface-wash.

The theories regarding the formation of these terraces may be classified as either the work of natural agencies or the work of man. The former is divided for convenience into two main headings, embracing the information gained by general observation and that proved by excavations. Professor J. W. Gregory is the chief exponent of the proposition of their being of natural origin. Both Professor Cosmo Innes¹ and Robert Chambers² (the latter being a native of Peebles and the first to make a scientific study of these hillside terraces) have changed their mind on the subject; the former having originally compared them to the parallel roads of Glen Roy, which are proved to be the work of nature, and the latter having stated that they represented ancient lake margins. Professor Gregory in a recent publication³ maintains that these terraces are due to a form of slipping or creep in a soil of a particular type and of a particular depth, which was caused during the closing period of the Great Ice Age.

R. Eckford⁴ says that in consulting various works, chiefly American, which deal with the effect of solifluxion (the process of soil movement on a slope when it becomes saturated with water), nothing is recorded to suggest any comparison to these terrace groups in the south of Scotland. Water in the form of rivers and lakes can produce splendid examples of terracing; that nature can produce a group of terraces similar to those under discussion by soil-slipping is very doubtful. There is not the parallelism, the orientation, the exact spacing in soil-slipping, the work of which appears in the form of irregular hummocky masses. If the terraces had originated by soil-creep, it seems a remarkable coincidence that there should only have been sufficient depth of soil at a few widely separated localities. It is, however, possible that man got his idea of terracing from river and lake terraces, but that ancient tribes used terraces of natural origin for agriculture or other

¹ *Origines Parochiales*, vol. i. p. 196.

² *Proc. Soc. Ant. Scot.*, vol. i. pp. 127-38.

³ Letter from Professor J. W. Gregory to Professor T. H. Bryce (*History of Peeblesshire*, ed. Walter Buchan, vol. i. Appendix).

⁴ *Proc. Soc. Ant. Scot.*, vol. lxii. pp. 107-20.

purposes is unlikely. All the terrace groups in the Lowlands face either west or south, a point that favours their having been used for raising crops. So far as the writer knows, no two sets of terraces have been found on opposite sides of any valley in the Lowlands; hence the improbability of their being ancient lake margins is greatly increased.

Professor Gregory raises a number of arguments against their artificial origin. He says (i.) that they are short and irregular, and occur at various levels; (ii.) that they are dependent on the slope of the ground; (iii.) that they are not horizontal, and that their slope may be in opposite directions in one group of terraces; (iv.) that stones found in the ridges lie at all angles. These arguments are by no means convincing, and they can be replied to in every case.

The striking feature of the terraces when seen from a distance is their regularity. Most of them can be traced from end to end of their boundary lines, a fair average in length for the groups measuring roughly 250 yards, and only in a very few cases have small slips taken place. In all the groups of nearby terracing the width, height, and number of the individual ridges depend upon the angle of slope. In the same slant height three times as many terraces are found at Romanno as at Purves Hill, where the widest terrace is 100 feet in breadth, being eight times as great as the widest at Romanno; while at Dunsyre a large part of the terrace slope is intermediate in gradient between these two. But at Dunsyre, Mr Phemister says in his notes, the shelf is fairly constant in width even though the height of the step varies, and it appears as if actual horizontal measurements had been made, so that the vertical step must vary with the position on the hillside. Sometimes the width of the shelf is 36 feet, then it is always found that there is a very low step in the centre, which may rise at the hill end to 3 or 4 feet. Surely these are examples of great regularity and uniformity of design carried into practice. Further, of all the terrace groups in the general neighbourhood of Romanno, those at Arthur's Seat, which occur between the 150-foot and the 500-foot levels, are the only ones that cannot roughly be said to be on a common level. As to his second objection, this surely cannot hold if one examines carefully the terrace groups at Dunsyre or Romanno, the former sweeping from steep ground into a gentle slope despite the fact that one would have expected them roughly at least to follow and not to cut across the contour lines. The slope on which the latter occur continues to the south for a good way with an apparently similar gradient, and, as revealed by digging, shows a similar depth and type of soil, yet there is no trace of a terrace. Here, as already mentioned, the terraces end against a furrow or butt which runs up the slope.

As to Professor Gregory's third point concerning the variance in direction of the terraces, all that can be said is that, on the whole, there is remarkably little irregularity, for the terraces are roughly parallel. That the terraces are not exactly horizontal and that the stones in the terraces lie at all angles is granted, but this does not negative the idea that they were used for purposes of cultivation, but indeed rather supports it. These early people must have known something about the methods of cultivation; experience would teach them that perfectly level terraces would hold up water with the accompanying souring of the soil. Regarding the positions of the stones, this if anything is surely an argument against the terraces being due to the agency of water, but not against their human origin.

Rather spasmodic excavation has produced some interesting information bearing on the origin and purpose of these terraces. From 2 to 3½ feet of free loamy soil was found to compose the surface material at Venlaw, Purves Hill, Romanno, Dunsyre Hill, and Arthur's Seat. Underlying this loamy soil at Venlaw and Purves Hill the original stiff boulder clay was found, and at Romanno the soil became more sandy and more like the unturned surface soil found to the south, where no terraces exist; at the former site there being a distinct difference in colour between the upper 3 feet of earth and the underlying material. At Dunsyre Hill, on the steeper part of the hillside below the loamy soil, was rubble material apparently on the solid rock. On the gentler slope the loamy soil rested on the typical boulder clay of the district. Immediately above where the terraces ended on the steeper face of Dunsyre Hill, natural exposure only revealed rubble lying on the solid rock. One or two of the terraces here seem to end where they reach the steepest part of the hill, suggesting the lack of soil to carry them further up the slope. The absence of soil on the steeper face of the hill suggests that the terraces occurring here may have been made up from the lower parts, where there was a good depth of boulder clay.

Large boulders were sometimes found in the lower material of these terrace-groups, but only small stones were ever discovered in the loamy soil; and although at Romanno rock was found *in situ* to the south, no stones showing ice marks were dug up. Charcoal fragments were found in quantity in the 3 feet of surface material at Venlaw, there being none in the similar ground where the terraces end; and at Purves Hill small fragments sparsely interspersed were discovered. Some of the terraces at Arthur's Seat and at Purves Hill were found to have their scarps reinforced with large stones.

Additional arguments against the theory of the terraces being of

natural origin can be based on these excavations as follows. It is very unlikely that at the terraces examined nature should have provided a layer of earth markedly suitable for cultivation lying upon barren clay, rubble, or sandy soil, the two latter being of a nature similar to that occurring at the surface of the uncultivated land adjacent to the terraces, and in one case the colour of the loam and the sub-soil should be distinctly different. Surely it is significant that all the stones in the surface material were of a size not too large to interfere with the process of cultivation; that, especially at Venlaw, there should have been large boulders which would have seriously impeded agricultural operations; and that at Purves Hill a terrace should have been excavated, not built up. The faced scarp at Arthur's Seat and Purves Hill cannot be the work of nature. The charcoal found on the two terraced sites may have been manufactured by human hands, either having been derived from the burning of the brushwood when the site was being cleared, and incorporated into the soil when the terraces were made, or subsequently added for its value as a fertiliser. However, it is equally probable that mere decay was the cause of the blackened condition of the wood fragments discovered; for *eramacausicis*, the "slow combustion" of decay, often reduces wood to a substance that is indistinguishable from charcoal, even with the aid of a microscope. No human implements, it is true, have ever been found in any of these terraces, but no attempt at systematic excavations has been made. If there had been, it is extremely unlikely that any implements would have been discovered even though the hillside had been cultivated for a long period in prehistoric times.

Whether the terraces were used for cultivation or not opens up a large field for discussion. Both Professor Innes¹ and Robert Chambers (the latter after further inspection of the groups at Arthur's Seat, Romanno, and Dunsyre) eventually thought that most of these terraces had been designed for raising crops, in contrast to their first theories, which were that they were the work of nature. Armstrong says of these terraces: "They are called Pictish by the country people."² Hadrian Allcroft,³ in associating the Romanno terraces with lynchets, embraces nearly all the principal theories associated with them when he says that he believes that many were used for cultivation purposes, and suggests that some of them may have been used for defensive purposes, while others may have been constructed to get level ground for the encampments of the dwellers of these regions; he also thinks that

¹ Williamson, *Glimpses of Peeblesshire*, part iii. (Newlands).

² *Companion to the Map of Tweeddale*, p. 74.

³ *Earthworks of England*, p. 38.

many of them may be of no great age—a view also expressed by Gomme.¹

Lynchets are generally believed to have been formed in the following manner. When the turf is removed by ploughing from an area of ground and the soil is disturbed, there is a tendency for the latter to travel downhill and to form an accumulation at the lower edge of the plot at the expense of the upper edge. It will thus be readily seen that, when there is a series of fields one above the other, which was originally separated by a narrow strip of unploughed turf to prevent the soil from travelling down from one field to another, the earth at the lower side of one lynchet will come immediately above the excavated part of the lynchet below. This is made evident whenever sections of such lynchets are exposed by excavation, says Mr Cecil Curwen,² and, if this is so, the presence of lynchets in connection with a plot of ground amounts to proof positive that the surface of such a plot has been cultivated.

One wonders why this conclusive test has not been applied in connection with the terraces of the Lowlands of Scotland, thus for ever deciding the fervent discussion. Perhaps it is because these terraces are not real lynchets in the true sense of the word, in that they have not been purely formed out of an even slope by the process of ploughing, but have been in the first place, to some extent, artificially constructed. The terraces at Tor Hill, two miles south-east of Peebles, are more likely to have been the result of ploughing across the slope, as they are poorly developed. Certainly the terraces at Arthur's Seat and Purves Hill have been partially banked up, as some of the terraces have, as previously mentioned, a carefully formed stone scarp.

A writer to the *Scotsman*³ in the year 1900 says that these terraces are a fine example of the Run-rig system of cultivation throughout the slopes or steps of the terraces, while the flats served as pathways and marked the boundary lines; this system being practised in olden days in various parts of the country. The writer, however, seems to be labouring under a delusion as regards the interpretation of the Run-rig system of cultivation. Seebohm⁴ correlates this system of cultivation with that of the lynchets, or lynchets, already discussed, which is the generally accepted explanation.

Professor Gregory argues that these terrace formations occur at too high an altitude, and are too much exposed for crop-growing. This remark can only be applied, if anywhere, at Dunsyre, where the terraces

¹ *Origin of Village Communities*, chap. iv.

² J. Watson, *Peeblesshire and its Outlying Borders*, p. 81.

³ *English Village Community*, pp. 3-6.

⁴ *Antiquity*, vol. 1., No. 3, p. 273.

extend from the 900-foot level to the 1150-foot contour; however, even at a height of from 950 to 1000 feet, one can see large areas that have been cultivated until recently. At my home, near Leadburn, the farmers on our estate practise cultivation at a height of at least 1000 feet, and areas have been under cultivation until a few years ago at a height of over 1100 feet. And it is only within recent times that the cultivation of plots at high altitudes has shown a marked decrease in Scotland. It may be said that a large factor in the development of agriculture has been the movement from the hills to the valleys. This movement has been going on by very slow degrees since the earliest settlers practised agriculture in these islands, and it is very interesting to trace this development through the ages.

Mr G. Trevelyan¹ gives an excellent picture of these early times when he says: "Agriculture had first been introduced in prehistoric times, when it could only be practised in certain carefully chosen localities that were neither marshy nor encumbered by trees, nor were yet mere barren heath." It is important to notice that dense brushwood and scrub would cover the lower and less steep slopes, whereas those higher up would either be bare or require less clearance. Owing to the swampy nature of the valleys and the dense undergrowth surrounding them, the atmosphere would tend to become more humid, and the climate therefore more amenable for cultivation at higher levels. Probably the loose nature of the soil on certain sites would determine these areas for terracing, in preference to others which, apart from this, were equally suitable. Terracing the hillsides would in addition ensure the retention of sufficient rain-water for the needs of the crops, and would afford an economy of the scanty sub-soil by concentrating it on the shelves.

A point of great interest is that all these terrace groups are in close proximity to old forts or fortalices. At most forts in Peeblesshire no trace of terracing is found; yet there are no terraces without a fort or ancient tower, or suggestion of such in their proximity. These terraces would then, as well as serving their agricultural purposes, offer an easily defensible situation for early settlers. Many of the ancient forts, believed to be of the Iron Age, probably 1500 to 2000 years ago, stand approximately around the 800- to 900-foot contour. These forts or camps represent some of the townships of that time, indicating a common level or plain of occupation, and these terraces were probably communal holdings of these ancient settlements.

Mr Trevelyan further states that "the high-placed camps, roads, and dew-ponds of the primitive people, often found where only the sheep or plovers now congregate, remind us of the greater part that the bare

¹ *History of England*, pp. 4-5.

uplands played in the life of Man before the forests were felled and the valleys drained." If the settlers had cleared and drained the valleys and the lower slopes, which might have been done with less expenditure of labour than that which was used in the construction of the terraces, the probability is that, as the latter would be surrounded by woodland, the maturing and drying of the produce cultivated there would be retarded. It is not maintained that these sites were ideal for agriculture, but they were probably the most suitable at that time.

Speaking of a much later date, Hume Brown mentions that the slopes of the hills were generally cultivated by the Scots, and that the Southern visitor regarded this custom as one of the peculiarities of our remarkable country. Long after Mary's time an Englishman says: "Tis almost incredible how much of the mountains they plough, where the declensions—I had almost said precipices—are such that to our thinking it puts them to greater difficulty and charge to carry out their work than they need be at draining the valleys."¹ It is probable that the previously swampy valley below the Romano terraces, when it had become, by draining, a large expanse of country available for agriculture, was called the "new lands," for that is the modern name of the parish.

That these terraces were the work of the Romans is supported by Dr Pennicuik and Dr Gordon; the former stated that they were defensive works constructed probably to ward off the attacks of the Pictish cavalry, and the latter that the terraces were thrown up "as Itinerary Encampments." For Gordon advanced the now refuted theory that the Roman Camp of Lyne in Peeblesshire was "a work of Severus in his northerly expedition, because no less extent of ground than the whole space from the Fort along the water-side to the other square intrenchment beyond Romana was capable of containing so great an army as he brought along with him, part of which in all probability lay encamped on the side of the hill where the huge terraces of Romana appear." The old native fort on Whiteside Hill, overlooking the terraces, may in Dr Pennicuik's day have been classified as Roman, hence his curious suggestion.

Under the heading that "some of them are of no great age" (like those at Neidpath Castle of the sixteenth century), the most probable theory suggested is that a few of these terrace groups were used as terrace gardens. Robert Chambers is an exponent of this theory in regard to some of the smaller terrace groups, and William Chambers, although stating that they probably existed from an early British period, says "that it is not less likely that they were kept in use till much later times and became appendages of feudal keeps."

¹ *Scotland in the Time of Queen Mary*, p. 13.

If the idea is entertained that some of these terraces be terrace gardens, the ones at Romanno, Purves Hill, and Venlaw are the likeliest, because they occur near buildings of mediæval or later date; it is, however, strange that no confirmation of this theory is to be found in old estate records. At Romanno there were ruins of an old building overlooking the terraces when Dr Pennicuik wrote his *History of Tweeddale*. Above the Purves Hill group at Walkerburn ruins of an old fortalice can still be seen. Mr Eckford mentions an old tradition relating to this group of terraces, that the owner of the castle had a large number of daughters, who quarrelled continually among themselves, with the result that he had a number of terraces made to serve as garden-walks, one for each daughter. Overlooking the Venlaw terraces at Peebles in olden times stood Smithfield Tower, which, however, had disappeared by the end of the eighteenth century.

As the canons of Holyrood owned the lands of Romanno in ancient times,¹ Professor W. J. Watson suggests that the cultivated terraces at Arthur's Seat and Romanno may have been made by them; this, however, is an unlikely possibility. George Chalmers attempts an explanation of the latter terraces by saying that they "were undoubtedly intended for various sports,"² and it seems that he has the practice of archery in mind. It does not, however, seem clear as to whether it is meant that the archers shot along the terraces, or at them from a distance, the targets being placed up the hillside, thus getting the various ranges; the latter suggestion seems the more fatuous of the two. The theory of these terrace groups being of recent construction does not in all probability apply to many of the examples in the Lowlands of Scotland.

The terracing of slopes has been practised from time immemorial. There are excellent examples in Italy, Greece, Japan, China, Korea, Rhodesia, and the Canary Islands. Nearer home there are large areas under terrace cultivation on the slopes of the Rhine Valley, which are used to a large extent for vine-growing. However, in Scotland it is almost certain that such terraces as those at Romanno were not used for this latter purpose, as Tacitus in his *Life of Agricola* definitely states that "with the exception of the olive and vine, and plants which usually grow in warmer climates, the soil will yield, and even abundantly, all ordinary produce."³

The conclusion that is arrived at by the writer with regard to the origin and purpose of these terraces is that they were constructed in

¹ Innes, *Origines Parochiales*, vol. i. p. 193.

² *Caledonia*, vol. i. p. 468.

³ *The Life of Cnaeus Julius Agricola*, Tacitus, first published between October 97 and January 98. Translation, Church and Brodribb.

prehistoric times by the natives for the purpose of cultivation; any further statement on the subject being based on conjecture would not therefore be strictly reliable.

It only remains gratefully to acknowledge the invaluable collaboration of Mr J. D. Lyford-Pike in writing this paper, and also my indebtedness to an article of Mr Eckford's in the *Proceedings*, vol. lxii. p. 107, especially for facts regarding the excavation of the terraces, and for information concerning other terrace groups in the vicinity to which those at Romanno were compared, but which we personally were not able to investigate.

III.

AN OLD SCOTTISH VIOLIN TUTOR. BY HENRY GEORGE FARMER, M.A., PH.D., F.S.A. SCOT.

Once upon a time the harp was considered to be the most important instrument of music in Scotland. That was in the days of Auld Lang Syne.¹ About the close of the fifteenth century the lute began to oust the harp from its position of eminence, and quite a number of lute books, in manuscript, have come down to us from the seventeenth century.² The viol, too, was favoured, and some of its music has also been spared.³ Towards the close of the seventeenth century the violin attained such popularity in Scotland as to quite eclipse the lute and other stringed instruments. The instrument was by no means new to Scotland, as we read that among the minstrels of Perth who played before Edward I., in 1303-4, were "fiddlers, psalterists, and others."⁴

From the mid-eighteenth to the mid-nineteenth century the music publishers of Scotland issued a considerable quantity of music for the violin, mostly of the dance type, and for many years it was my pleasure to collect specimens of this music, which I catalogued, not according to composers or arrangers, but under printers and publishers. This collection is now in the Library of the University of Glasgow. At present, however, we are concerned with the performers rather than with the printers of this type of music.

Names of famous Scottish fiddlers in the eighteenth century are

¹ See *Proceedings of the Society of Antiquaries of Scotland*, vol. xiv. p. 123, and vol. xv. p. 10.

² *Rowcallan MS.* (c. 1612-28) and *Guthrie MS.* (c. 1675-80) in the Library of the University of Edinburgh, and the *Skene MS.* (c. 1615-35) and transcripts of the *Straloch MS.* (c. 1627-9) in the National Library of Scotland.

³ Transcripts of the *Leylen MS.* (c. 1639) and the *Blaikie MS.* (c. 1683-92) in the National Library and Wighton Library, Dundee, respectively.

⁴ *Catalogue of Documents relating to Scotland*, vol. I. p. 474.

plentiful, and among them William McGibbon (*d.* 1756), Daniel Dow (*d.* 1783), "King" McGlashan (*d.* 1797), "Red Bob" Mackintosh (*d.* 1807), and Neil Gow (*d.* 1807). Yet although we have quite a wealth of

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information about *what* was played by these *virtuosi* we know very little about *how* it was played. It is for this reason that I have considered it worth while calling your attention to an old manuscript Scottish violin tutor of the mid-eighteenth century in my possession. Above is the title page of the manuscript.

I acquired this manuscript in 1923 from Harold Reeves, the London bookseller, but I was unable to ascertain anything concerning previous ownership. Indeed, I have not been able to learn anything about James Gillespie, the compiler of the work. The title page shows us that he was a Freemason, and this might enable some record to be turned up in Perth, although there is no mention of him in D. C. Smith's *History of the Ancient Masonic Lodge of Scone and Perth*, No. 3. (Perth, 1898.)

So far as I am aware, this is the oldest violin tutor of Scottish provenance that has been preserved, and there is only one older manuscript of violin music recorded—the *Cumming MS.* (1723-24), formerly in the possession of the late Frank Kidson.¹ The manuscript is well written, and the music is copied in an excellent hand, quite equal to that of a copperplate engraver. The work is divided into an Introduction and Four Parts. The Introduction contains the "Directions for Playing the Violin." Part I. is devoted to "Airs and Marches" (30); Part II. to "Scots Tunes" (61); Part III. to "Minuets" (57); and Part IV. to "Hornpipes, Jiggs, and Reels" (107).

The Introduction, or "Directions for Playing the Violin," is not original. It is based on a work entitled *The Art of Playing the Violin*, which appeared among a series of tutors issued in London in 1731 under the general title of *The Music-Master*, whose author was a certain Peter Prelleur, a Frenchman by birth. It was reissued in various forms, one under the title of *The Complete Tutor for the Violin* (1750), whilst another was printed by Thomson & Son about 1765.

From internal evidence it appears that Gillespie of Perth did not borrow from the original edition of 1731 nor from that of 1750. It must have been from a later issue, perhaps that of Thomson & Son about 1765. Indeed, Gillespie's spelling leads one to surmise that he may not have borrowed directly from a printed source, but at second hand, through a manuscript copy. On the other hand, his vagaries in spelling may have been due to the vernacular. At any rate, Gillespie's manuscript shows more correct grammar and punctuation.

As for the matter that is borrowed, Gillespie is by no means slavish. If he thinks that he can improve by omission or commission he does so. For instance, Prelleur, the author of the original, realises that one of the difficulties of beginners in violin-playing is to put their fingers in the proper places on the strings. His method of overcoming this difficulty was to mark the places on the fingerboard with ink or bits of paper. Gillespie has no use for it. In other cases, Gillespie corrects errors in the original, although they are palpable.

¹ There are, however, several Scottish printed works of violin music of an earlier date, such as those of Oswald (c. 1740), McGibbon (1742), Bremner (1759), Stewart (1761-62), and Peacock (1762).

Twelve lessons or exercises are given for the beginner to try his "prentice hand." These, if mastered, were evidently considered a sufficient training in those days. Here is the list:—

- i. Lesson. Key C. *A Minuet.*
- ii. Lesson. Key A [Minor]. *Britange.*
- iii. Lesson. Key A [Minor]. *Good Night &c.*
- iv. Lesson. Key G. *Miss Carnegies Minuet.*
- v. Lesson. Key D. *Lord Howe's Minuet.*
- vi. Lesson. Key D. *Lady Ann Erskine's Minuet.*
- vii. Lesson. Key D. *Fellons Minuet.*
- viii. Lesson. Key D. *Mr Dundass's Minuet.*
- ix. Lesson. Key A. *Minuet by McGibbon.*
- x. Lesson. Key A. *Tweed Side.*
- xi. Lesson. Key F. *Corrente by Correllie.*
- xii. Lesson. Key B [Flat]. *Minuet by Giminani.*

Of these twelve items, five are Scots tunes, and three are by celebrated composers—Corelli (1653–1713), Geminiani (1680–1761), and Felton (1713–69). Strange to say, all of the lessons are minuets, no example of duple or quadruple being given so as to prepare beginners for a reel or strathspey.

Part I. comprises "Airs and Marches." They have little interest, since they are what we generally find in English collections of the period, although Gillespie borrowed some of them from Bremner's *Collection of Airs and Marches* (London, c. 1765), the melodies of which he did not scruple to alter. The fact that he spells the names of Corelli, Geminiani, and others incorrectly may lead us to suppose that he did not copy their compositions from printed sources. They had probably become part of the repertory of Scottish fiddlers by this time.

PART I. *Airs and March's.*¹

- | | |
|-----------------------------------|--|
| 1. Lord Lenox's March. | 16. Gavot by Mr Handle. |
| 2. Duet by Mr Handel. | 17. Dorchester March. |
| 3. Gavot by Correllie. | 18. Hearts of Oak. A Song. |
| 4. Count Sax's March. | 19. Charles the 12th King of Swedene's |
| 5. King George's March. | March. |
| 6. A March. | 20. Gilderoy. |
| 7. Belisle March. | 21. Britania. |
| 8. Britons Strike Home. | 22. An Air. |
| 9. Prince Eugene's March. | 23. Thro the Wood Ladie. A Song. |
| 10. Count Brown's March. | 24. Air by Mr Handel. |
| 11. A March in Solomon. | 25. The Grenadiers March. |
| 12. The Duke of Holstine's March. | 26. Gavott by Chs. McLean. |
| 13. Skelcher's March. | 27. Lord Loudans March. |
| 14. Granoe's March. | 28. Old Buffs March. |
| 15. The Edinburgh Train Band's | 29. A March in Rinaldo. |
| March. | 30. Air by Handel. |

¹ The spelling is given exactly as it appears in the MS. The Index, however, sometimes gives another spelling.

Part II.—“Scots Tunes,” has greater interest. The same may be said of Part III.—“Minuets,” and Part IV.—“Hornpipes, Jiggs, and Reels.” Although much of the material contained in these sections is to be found in the printed collections of Oswald,¹ McGibbon,² Bremner,³ Neil Stewart,⁴ and Peacock,⁵ yet there is additional interest for the following reasons:—

- (1) Tunes are registered that do not occur elsewhere.
- (2) Tunes are included here before they appear in print.
- (3) Tunes are recorded in different versions from those in print.

PART II. Scots Tunes.

- | | |
|--|---|
| 31. Gillierankie. | 60. Kathrine Ogie. |
| 32. Up in the Morning Early. | 61. Eatriek Banks. |
| 33. The Coalliers Daughter. | 62. Saw ye my Love Peggie. |
| 34. The Yellow Haird Ladie. | 63. I Wish my Love were in a Mire.
New Sett. |
| 35. I'll Never Leve the. | 64. Moggie Lawther. |
| 36. Pinkie House. | 65. To Danton Me. |
| 37. New Highland Ladie. | 66. John Hays Boney Lassie. |
| 38. The Bottom of the Punch Bowl. | 67. The Lasse of Patie's Mill. |
| 39. For Lake of Gold she's left me. | 68. Over the Watter to Charlie. |
| 40. Woes my Heart that we
Should Sunder. | 69. Johnie Cope are you Wakeing Yet. |
| 41. Rossline Castle. | 70. The Ducks dang Over My Dadie. |
| 42. Lo Down in the Broom. | 71. Joy to Great Ceaser. |
| 43. The Isle of Sky. A Scots
Measure. | 72. The Merry Wives of Carlile. |
| 44. The Lass of Livingstone. A
Scots Measure. | 73. The Noble Reace of Jenken. |
| 45. McLauchlen's Scots Measure. | 74. My Own kind Dearie. |
| 46. Balginie's Bowling Green. | 75. Where shall Our Goodman Lay. |
| 47. My Apron Dearie. | 76. Duncan Gray. |
| 48. Bonney Jean. | 77. Cock up your Bevar. |
| 49. The Charmes of Lovely Peggie. | 78. Lumps of Pudens. |
| 50. Peggie Grives Me. | 79. Whisle Ore the Leve Od. |
| 51. Miss Hamelton's Delight. | 80. The Flowres of the Forrest. |
| 52. The Dutch Skipper. | 81. Grigs Pipes. |
| 53. Logan Watter. | 82. Black Jock. |
| 54. The Lilles of France. | 83. Jackie Latten. |
| 55. Widow art thou Wakeing. | 84. Roring Willie. |
| 56. Jack and his Trowsers On. | 85. Sandie Rea &c. |
| 57. She Rose and let me in. | 86. Comely Garden. A Reel. |
| 58. Saw ye na Eppie Mc Enab th'
day. | 87. John Come Kiss me Now. |
| 59. Throw the Wood Ladie. | 88. O'er the Moor to Maggie. |
| | 89. Carrick Fergues. New Set. |
| | 90. Sours Plumbs of Gallowshilds. |
| | 91. A Reel. |

¹ Oswald (James), *A Curious Collection of Scots Tunes for a Violin, Bass Viol, or German Flute* (Edin., c. 1740); *A Collection of Curious Scots Tunes* (Lond., c. 1742); *The Caledonian Pocket Companion* (12 bks., Lond., c. 1742-60); *A Collection of 43 Scots Tunes* (Lond., n.d.), etc.

² McGibbon (William), *A Collection of Scots Tunes for a Violin, Hautboy, or German Flute*, (3 bks., Edin., 1742, 1746, 1755).

³ Bremner (Robert), *Thirty Scots Songs* (2 bks., Edin. [1757], c. 1759); *A Collection of Scots Reels and Country Dances* (Edin. [1759]); *A Curious Collection of Scots Tunes* (Edin. [1759]).

⁴ Stewart (Neil), *A Collection of the Newest and Best Reels and Country Dances* (Edin. [1761-62]).

⁵ Peacock (Francis), *Fifty Favourite Scotch Airs for a Violin* (Aberdeen [1762]).

PART III. Minuets.

- | | |
|--|---|
| 92. The State Houlders Minuet. | 120. Miss Woffington's Minuet. |
| 93. The Duke of York's Minuet. | 121. Prince Charles's Minuet. |
| 94. Lady Ann Dundass's Minuet. | 122. Italian Minuet. |
| 95. Lady Belly Erskine's Minuet. | 123. Princess Amelia's Minuet. |
| 96. Miss Fletchers Minuet. | 124. Miss Monro's Minuet. |
| 97. Lady Rothes or Lord Mark
Kers Minuet. | 125. Miss Pringle's Minuet. |
| 98. Miss Lenoy's Minuet. | 126. Miss Porterfield's Minuet. |
| 99. Miss Bowls Minuet. | 127. Prince Ch : New Minuet. |
| 100. Lady Mary Powiss's Minuet. | 128. Lady Betty Cochrane's Minuet. |
| 101. Sir Charles Sedlys Minuet. | 129. Countess of Weem's Minuet. |
| 102. Virginia Minuet. | 130. Jigge Minuet. |
| 103. Miss Carmichals Minuet. | 131. Lady Peggie Stewart's Minuet. |
| 104. Countess of Coventrie's Minuet. | 132. Lady Faney Erskine's Minuet. |
| 105. Miss Caw's Minuet. | 133. Lord Crawford's Minuet. |
| 106. Signo Pissqualie's Minuet. | 134. Lady Dundass's Minuet. |
| 107. Miss Montgomrie's Minuet. | 135. Miss Mary Porterfield's Minuet. |
| 108. Miss Stewart's Minuet. | 136. She's Sweetest when She's Naked
or Miss Faw's Minuet. |
| 109. Miss Maley Edmonstons Minuet. | 137. A Minuet. |
| 110. Lady Banff's Minuet. | 138. Oswalds Bass Minuet. |
| 111. Mr Pitt's Minuet. | 139. Mary Scott. |
| 112. French Minuet. | 140. A New Minuet. |
| 113. Mrs Bouth's Minuet. | 141. Lulleys Minuet. |
| 114. Lady Boyd's Minuet. | 142. Bellizie Minuet. |
| 115. The Neapoliton Minuet. | 143. Cukoo Minuet. |
| 116. Marshal Sax Minuet. | 144. Weidmans Minuet. |
| 117. A Minuet. | 145. A New Minuet. |
| 118. Major Erskine's Minnet. | 146. Scarabanda by Correllie. |
| 119. Miss Mally Montgomrie's
Minuet. | 147. Germain Minuet. |
| | 148. Italian Minuet. |

PART IV. Hornpipes, Jiggs, and Reels.

- | | |
|---|--|
| 149. The Flowers of the Forest. A
Reel. | 162. Lady Hariot Hope's Reel. |
| 150. Make the Bed. A Reel. | 163. The Soldier Ladie. A Reel. |
| 151. Love's Reel. | 164. A Reel. |
| 152. Burford Races. A Reel. | 165. The Duke of Athol's Blew
Britches. |
| 153. New Hay. | 166. The Duke of Perth's Reel. |
| 154. Inch of Perth. A Reel. | 167. Miss Blairs Reel. |
| 155. Up the Moor Amongest the
Heather. A Reel. | 168. A Reel. |
| 156. The Lads of Air. A Reel. | 169. Sir Alexr Mc donald's Rant. |
| 157. Green grow's the Rashes. A
Reel. | 170. Lasses of Dunc. A Reel. |
| 158. Sweet Mally. A Reel. | 171. Suky Bids Me. |
| 159. Lady Sinclers Reel. | 172. Shan Trowes. |
| 160. The Royal Exchange Reel. | 173. For Lake of Gold Jige. |
| 161. Lady Fanie Montgomries Reel. | 174. Linkem Dodie. A Reel. |
| | 175. The Pretty She. A Strathspey. |
| | 176. Strathspey Reel. |

PART IV. Hornpipes, Jiggs, and Reels—continued.

- | | |
|---|---|
| 177. Wanton Towdie. A Reel. | 217. I wish you would marrey me now. A Reel. |
| 178. Prince Charlie's Delight. | 218. Russans Rant. A Strathspey Reel. |
| 179. Green Slives. | 219. Breas of Angus. A R[ee]. |
| 180. Jacks Alive. | 220. Lady Jean Hoom's Reel. |
| 181. Geld him Lasses. A Hornpipe. | 221. The Boney wi thing. A Reel. |
| 182. I'll lay no more with my Mother. | 222. I've got A Wife of [my] Own. A Reel. |
| 183. Carouse and be Merry. | 223. The Free and Accepted Mason. |
| 184. O If I had such a Lassie as this. | 224. Lochyell's Rant. A Strathspey. |
| 185. Daniel Couper. | 225. The Lass of Elgin. A Reel. |
| 186. Rigadown. | 226. The Marques of Granby's Delight. |
| 187. King Charles Jige. | 227. Hornpipe. |
| 188. Unfortunate Jock. | 228. A Strathspey Reel. |
| 189. I'll Kick the World Before Me. | 229. My Wife's a Wanton wi thing. |
| 190. Boll of Bear. | 230. My Minnie [s] Ay Glowran O'er Me. |
| 191. Dustie Miller. A Hornpipe. | 231. Carrick Fergues. An Irish Reel. |
| 192. If the Kirk would lett me be. | 232. Love in a Vilage. A Reel. |
| 193. The Birks of Abergeldie. A Reel. | 233. Bernards Well. A Reel. |
| 194. Cammron's got his Wife Again. A Reel. | 234. Hallow Fair. A Reel. |
| 195. The Highland Hill's. | 235. Lord Kellys Reel. |
| 196. Keep the Country bonny Lassie. A Reel. | 236. Lord Kinairds Reel. |
| 197. Peas Straw. A Reel. | 237. Jannie dang the Weaver. A Reel. |
| 198. The Ranting Highlandman. A Reel. | 238. I'll Make you be fain to follow me. A Reel. |
| 199. Hopeton House. A Reel. | 239. O'er the Moor among the Hedder. A New Set. A Reel. |
| 200. Wellcome Home my Dearie. | 240. Cameronians Rant. |
| 201. Invercald Reel. A Strathspey. | 241. Campbells are Coming Oho. |
| 202. Highland watchs farewell to Ireland. | 242. Short Apron. |
| 203. Lick the Ladle Sandie. A Reel. | 243. Blair Drummonds Reel. |
| 204. Struan Robertsons Rant. | 244. The Parson and his Boots. |
| 205. Reel of Tulloch. | 245. Tulloch Gorm. Reel. |
| 206. Will you go to Sheriff Moor. | 246. Mary Gray. A Reel. |
| 207. Peggie's Wedding. | 247. Mr Reidheads Reel. |
| 208. Kiss the Lass ye like best. A Reel. | 248. Had the Lass till I winn at hir. |
| 209. Ye'llay be Wellcome back again. | 249. Miss Robertsons Reel. |
| 210. New Christmass. | 250. Nancy Dawsons Hornpipe. |
| 211. Garick Reel. | 251. Miss Frassers Reel. |
| 212. Merry Dancers. | 252. Irish Reel. |
| 213. Merrly Dance the Quaker. | 253. Kincathrins Reel. |
| 214. Bring hir ben and Bore hir beller. | 254. Miss Frassers Reel. New Set. |
| 215. Sing Tantarrah Raragh Rouges all. | 255. Captain Brouns Reel. |
| 216. A Trumpet Jigge. | 256. Peas Straw. A New Set. |

Those who know the famous picture of Neil Gow (*d.* 1807) will recall that he holds his violin with his chin on the *right* side of the tail-piece. We know from M. l'Abbé's *Principes du violon pour apprendre le doigt de cet instrument* (c. 1760) that the modern way of holding the instrument with the chin on the *left* side was already in vogue elsewhere. At the same time it has to be admitted that even in England the old method obtained as late as 1825, since Paine advocates it in his *Treatise on the Violin*.

Another feature of the old school of violin playing was that, instead of the instrument being held horizontally, the head was lowered so as to enable the elbow to rest on the hip.

The old method was not conducive to rapid cross fingering, whilst double fingering, *i.e.* placing one finger on two strings, was by no means easy. Those who are acquainted with Scottish dance music will know that many of the reels and strathspeys are extremely difficult to play, especially the former, if the proper *tempi* are adhered to. Since the ordinary eighteenth-century Scottish fiddler was neither a Paganini nor a Kreisler, one naturally wonders how he managed to play these reels and strathspeys when in addition to the technical difficulties of the music there was also a cumbersome method to contend with. This tutor reveals one of the tricks of the old fiddlers which enabled them to overcome certain difficulties in fingering and bowing. This was accomplished by the adoption of a "scordatura," as it was called, which was a variation from the ordinary tuning of the violin. Several examples of this are given in this tutor.

A reel called *Grigs Pipes* (second half) is conventionally noted as follows:—



To simplify the playing the four strings were tuned to A-E-a-c \sharp , instead of the usual G-D-a-e. The result was that the performer actually

fingering the strings as follows, which considerably simplified both cross and double fingering:—



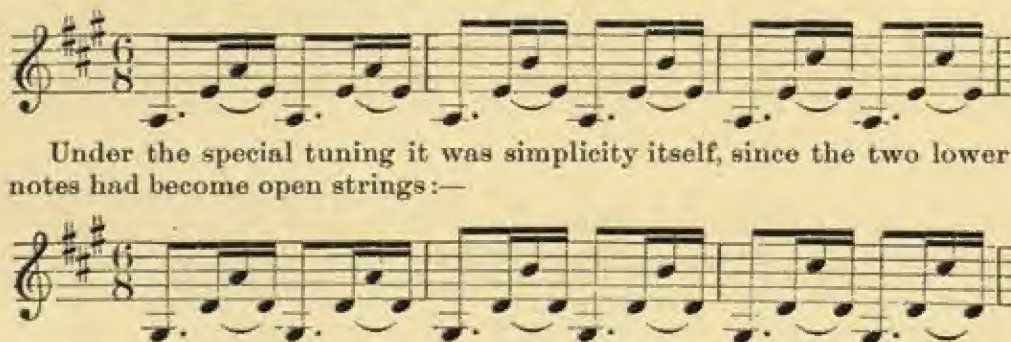
Similarly, a jig called *Black Jock* had a tuning A-E-a-e, instead of the conventional tuning. This was also used for another reel called *My Own Kind Dearie*. Here are two passages from *Black Jock* which will further illustrate how the fingering and bowing were simplified. The conventional way of noting the jig was thus:—



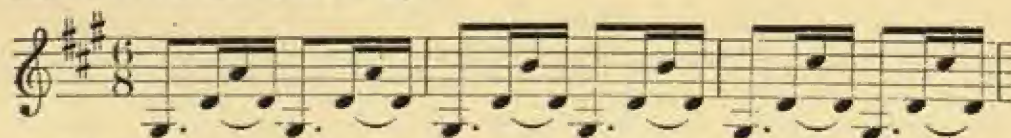
With the tuning A-E-a-e, the fingering was accomplished by this scheme:—



In the following passage the conventional performance necessitated that the first finger had to take extraordinary positions:—



Under the special tuning it was simplicity itself, since the two lower notes had become open strings:—



What is more, the resonant tone obtained by the use of open strings served very often to give the necessary emphasis to the accented beats of the bar, and even acted as a sort of pedal, whilst sometimes it enabled the performer to obtain the drone effect of the bagpipe.

Historians of Scottish music cannot afford to neglect this old manuscript Violin Tutor, not only because of the features just outlined, but also on account of the different versions of many of the national melodies.

MONDAY, 11th May 1931.

CHARLES E. WHITELAW, I.A., Vice-President,
in the Chair.

A Ballot having been taken, the following were elected Fellows:—

GILBERT H. ASKEW, Fairfield, Riding Mill-on-Tyne, Northumberland.
HUGH MILLER BIGGS, L.D.S., R.F.P.S., 1 Clifton Place, Glasgow, C.3.
HUGH MORISON CONACHER, Assistant Secretary, Department of Agriculture for Scotland, 6 Tweed Green, Peebles.
ARTHUR BURNES DALGETTY, M.D., Lossiehall, Liff, Angus.
JOSEPH HENRY MURRAY, Glengyle Lodge, Bruntsfield, Edinburgh.
WILLIAM WISEMAN of "Braehead," Clifton Road, Aberdeen, 12 Hillside Street, Edinburgh.

It was intimated that Colonel The Hon. Arthur C. Murray, C.M.G., D.S.O., the owner of the Spurs and Hunting Horn (figs. 1 and 2) which are associated with the name of "Wat Scott of Harden," and which were purchased at the Polwarth Sale in 1912, had executed a Deed of Trust by which he had arranged that these relics should remain in Scotland for all time coming.

The following note, giving a short account of Wat of Harden and the relics associated with his name, had been received from Colonel Murray:—

To THE CURATORS,
National Museum of Antiquities of Scotland, Edinburgh.

ELIBANK,
SELKIRKSHIRE, August 1st, 1930.

GENTLEMEN—It is a matter of historical knowledge that in the days of Mary Queen of Scots and James VI., whilst the "dyke of hatred" between Scottish and English Borderers still existed, and reiving, plunder and reprisal still constituted their chief occupation, there lived at Harden in Roxburghshire, Walter Scott, commonly called "Auld Wat o' Harden." For many years "Auld Wat" played an important part in Border affairs, and no other Border reiver excelled him in the art of harassing and plundering the English. In 1592, under the leadership of Bothwell, he took part in the famous, though abortive, "Raid of Falkland," as a result of which an order was issued by the King with the advice of the Lords of Council giving "express bidding and charge to Walter Scott of Gouldielandis, and Mr (subsequently Sir) Gideon Murray of Elibank, conjunctlie and severallie, to dimoleis and

caus be demoleist and cassin down to the ground, the placeis, houssis, and fortalices of Harden and Dryhoip pertening to Walter Scott of Harden, quha wes arte and parte of the lait tresonabil fact perpetrat aganis His Majesteis awin persone at Falkland."

The demolition of Harden—if indeed the order was rigorously carried out—does not seem to have damped the martial ardour of "Auld Wat," for a few years later he joined the "Bold Buccleuch," "Prince of Reivers," a kinsman of his own, in the raid on Carlisle Castle, when "Kinmont Willie" was rescued in daring fashion from captivity.

Judging by the many stories told of "Auld Wat's" forays across the Border and by the number of head of live-stock which he transferred from English to Scottish pastures, it is clear that he was one of the most audacious and successful of Scottish Border reivers. There is on record an account of a moonlight outing into Cumberland in 1596 from which he rode back with "300 kye and oxen, 20 horses and mares, spoil of two houses, gold money and insight, worth 100 £ stg."

"Auld Wat" married, on 21st March 1567, Mary Scott of Dryhope, known for her beauty and gentleness as the "Flower of Yarrow."

Mary is said to have managed her somewhat turbulent husband with great skill, as an instance of which it is recorded that instead of upbraiding him if he allowed

the larder to become depleted she would set before him at dinner a pair of gilt Spanish spurs! The hint would be taken, and that same night "Auld Wat" and his men would ride forth, and the next morning a "bow o' kye" from the English side—or maybe from a neighbour!—would



Fig. 1. The Harden Spurs.



Fig. 2. The Harden Horn.

gladden the heart of "Yarrow's Rose"!

In 1611 William Scott, eldest son and heir of "Auld Wat," married Agnes, daughter of my ancestor, Sir Gideon Murray of Elibank, Treasurer-Depute of Scotland (1612-21). Round this marriage a combination of fact

and fiction has woven a romantic tale handed down to us through the ages as the story of Muckle-mou'd Meg.

Whatever the origin and truth of the story there can be little doubt that the marriage took place with the consent of the parents on both sides, but possibly it was arranged by them without asking the young people. It may be that young William of Harden, who was aware of the plainness of the young lady, did not want to marry her, and got up a raid in order to embroil the parents and get out of the match—hence the legend of Muckle-mon'd Meg. The marriage contract, which is still in existence among the Elibank papers, is an interesting and curious looking document.

So far as can be ascertained William and Muckle-mou'd Meg proved a very attached couple, and at a later date the lady saved her husband's life when the "Committee of Estates" were after him, by putting him in a chest and sitting on it whilst the troopers of the Covenant were searching the house.

William, in succeeding on the death of his father to the Harden property, acquired, amongst others of his father's possessions, "Auld Wat's" famous Bugle-Horn, used by the celebrated reiver on his reiving expeditions (and referred to by Sir Walter Scott in "The Reiver's Wedding"), and likewise the gilt Spurs so suggestively served up for dinner by his Mother, the "Flower of Yarrow."

The Horn and the Spurs were preserved by his descendants, but passed from the Scott family at the sale in 1912 of the treasures at Mertoun House belonging to the late Lord Polwarth, and they are now in my possession.

I think it will be generally agreed that if these very interesting Border relics are not in the keeping of the Scott family, it is not inappropriate that they should be in the possession of the Murrays of Elibank.

But who can say whether at some future date the Murrays of Elibank for some reason or another will not cease to possess them?

And into whose hands will they in that event fall? These are the questions that I put to myself some little time ago, but being of a hypothetical nature they were clearly not questions to which answers could be given! But they prompted a line of thought upon which I have since taken action. You will remember that in the early part of this year I asked you whether you would be prepared in certain circumstances to become parties to a Trust to hold the Horn and Spurs in perpetual possession.

You were good enough to reply in the affirmative. I have accordingly had drawn up a Deed of Trust of which the Trustees are the Curators of the Museum and the present Baron (my brother) and succeeding Barons Elibank. The Deed recites that the Horn and Spurs shall remain in the keeping of the Elibank family so long as there is a Baron Elibank and so long as he retains a residence in Scotland. Failing these conditions the relics are to be taken possession of by the Museum for exhibition to the public.

These provisions fulfil the object I have had in view in creating the Trust, namely, to ensure that the Horn and Spurs shall remain in perpetuity in Scotland and in, what I consider to be, appropriate hands. It is with much pleasure, therefore, that I ask you to accept possession of the Trust Deed which you will find enclosed with this letter.—I am, Yours very truly,

ARTHUR C. MURRAY.

Photographs of the relics were exhibited, and, on the motion of the Chairman, a cordial vote of thanks was accorded to Colonel Murray for his patriotic action, and the hope was expressed that other owners of Scottish historical relics, by following Colonel Murray's lead, might ensure that such relics should never be lost to Scotland.



Fig. 3. Stone Mould from Loophill, Evertown, Dumfriesshire.

There was exhibited by Mr David R. Milne Hume a stone mould for casting flat circular objects and bars, found at Evertown, Loophill, Canonbie, Dumfriesshire. The mould (fig. 3) was of flat segmental shape, and measured $9\frac{1}{4}$ inches in breadth, $8\frac{1}{4}$ inches in height, and $2\frac{1}{2}$ inches in thickness. On one face were two matrices, the first being of circular shape and measuring $2\frac{1}{8}$ inches in diameter and $\frac{1}{4}$ inch in depth, and the second for casting a bar or ingot, and measuring $3\frac{1}{8}$ inches in length, $\frac{5}{8}$ inch in breadth, and $\frac{3}{16}$ inch in depth. Running into the circular matrix was a short channel, but it was doubtful whether this might not have been a later addition.

The mould bore a striking resemblance to one found at Stannock, Whithorn, which had matrices for two flat circular objects and two bars on one face (see *Proceedings*, vol. lxiv. p. 300, fig. 6). Another

with matrices for a circular object and a bar was found in the Buston crannog, Ayrshire (see Munro, *Ancient Scottish Lake Dwellings*, p. 211, fig. 194).

The following Donations to the Museum were intimated and thanks voted to the Donors:—

(1) By Mrs M'LEAN, Maryborough, Dingwall.

The archaeological collections formed by her late husband, Dr William M'Lean.

Collection of Objects of Stone, Bone, and Deer-horn from the Caird's Cave at Rosemarkie, Ross-shire, excavated by Dr M'Lean, assisted by Colonel Hall, Fortrose. Amongst the objects found is a unique Pin of Bone measuring $1\frac{1}{2}$ inch in length; the head had been decorated with five small settings of amber, but only three now remain (fig. 4).



Fig. 4. Bone Pin with Amber Mounts (4).

Collection of Flint Implements from the neighbourhood of Dingwall and from the Black Isle, Ross-shire. The most of them were found within four miles of Fortrose.

(2) By COLONEL A. J. MACDOUGALL OF MACDOUGALL, C.M.G., Dunollie, Oban.

Part of a Flooring Board of red-wood, measuring $3\frac{1}{4}$ inches in breadth and $\frac{1}{4}$ inch thick, showing the method of joining the boards with dowels of pitch pine inserted on both edges, at intervals $6\frac{1}{2}$ inches to $7\frac{1}{2}$ inches apart. From Dunollie House.

(3) By JAMES CURLE, LL.D., F.S.A.Scot.

Fire-plate of Tinned Iron painted in black and gold, of the Caledonian Insurance Company. From Priorwood, Melrose.

(4) By JAMES S. RICHARDSON, F.S.A.Scot.

Fragment of a Stone Mould for casting long, pointed, wire-like objects, with six matrices cut side by side on one face and eight on the other. The gates for each group are set at opposite ends. The two complementary parts of the mould are awaiting. The fragment measures $2\frac{1}{2}$ inches broad and $\frac{1}{2}$ inch thick. Found at Linlithgow.

Part of an Iron Staple and fragment of a Bead of dark blue Glass, which is encircled by four corrugations. From Dunadd, Argyll.

The following Donations to the Library were intimated and thanks voted to the Donors:—

(1) By THE FIRST COMMISSIONER OF H.M. WORKS.

Ancient Monuments Consolidation and Amendment Act, 1913. List

of Monuments prepared by the Commissioner of Works in Pursuance of Section 12 of the Act. To 31st December 1930. London, 1931.

(2) By H.M. GOVERNMENT.

Acts of the Privy Council of England, 1619-1621. London, 1930.

The Pipe Rolls of 2-3-4 Henry II. Reproduced in Facsimile from the Edition of 1844. London, 1930.

(3) By Professor HAROLD WILLIAM THOMPSON, Ph.D., D.Litt., F.S.A.Scot., the Author.

A Scottish Man of Feeling: Some Account of Henry Mackenzie, Esq., of Edinburgh, and of the Golden Age of Burns and Scott. London and New York, 1931.

(4) By JOHN WARRACK, F.S.A.Scot., the Author.

The Scot Abroad and the Kirk of Greyfriars, Edinburgh. Edinburgh, n.d.

(5) By A. D. LACAILLE, F.S.A.Scot.

La Vie Musicale de l'Église. Par Amédée Gastoné. n.p., n.d.

(6) By THE SECRETARY, The Manx Museum, Douglas, I.O.M.

Journal of the Manx Museum. June and September 1925 and December 1930.

(7) By W. DOUGLAS SIMPSON, D.Litt., F.S.A.Scot., the Author.

Dunnottar Castle: Historical and Descriptive. Third Edition. Aberdeen, 1631.

The following Purchase for the Museum was announced:—

Copper Axe, measuring 4 inches by $2\frac{3}{16}$ inches by $\frac{1}{2}$ inch, found $2\frac{1}{2}$ feet below the surface at Glenelg, Inverness-shire.

The following Purchases of Books for the Library were intimated:—

Le Gard Préhistorique. Capitaine M. Louis. Nîmes, 1931.

English Ivories. By Miss M. H. Longhurst (of the Victoria and Albert Museum). London, 1926.

Primitive Beliefs in the North-East of Scotland. By J. M. M'Pherson B.D. London, 1929.

The following Communications were read:—

I.

• PREHISTORIC MAN AT TWEED BRIDGE, SELKIRK.

BY W. D. MASON, SELKIRK.

Early in the era of man's existence in this district, thousands of years before Sir Walter Scott opened the bridge we see in the accompanying photograph (fig. 1), our prehistoric ancestor settled on this stretch of Tweed, hunting its valleys, building and defending the neighbouring fort on the hill, and raising the mound known as the Catrail, which now winds its way over hill and dale, an everlasting puzzle to the antiquary. His children's children saw the strangers from across the sea build themselves a fort within the shadow of the Eildon Hills, they saw the grass grow again where once the proud chariots of Rome had driven, and silence came again to these valleys, for the watchers on the hill forts would wait for a foe who was fated never to return.

The years have passed and with them our early ancestors, leaving behind them little traces of their strivings on the road towards civilisation, yet here at the meeting-place of the two rivers, Ettrick and Tweed, they have left through the centuries evidence of many activities, and the landscape retains the signature of man from very early times. Previous to the erection of the fort on the hill, and centuries before the Catrail was raised, were left here archaeological remains dating back to a much earlier period of man's occupation of Tweedside.

Directly below the bridge, as will be observed in the photograph, Ettrick joins Tweed. Above the bridge on the Yair road side of the river, on the farm known as The Rink, can be seen a tree-planted scaur rising to about 80 feet from the river level. On the top of this scaur is a small triangular field marked by a cross, the site of the workshop of these early inhabitants. It dominates the haugh lands through which Tweed and Ettrick flow, and is sheltered from the north by the Rink Hill, on the summit of which the Rink fort is situated; half-way up the hill the windings of the Catrail can be traced, losing themselves in the lower reaches before they cross the Tweed at a point a little further north from this spot. The site, it will be seen, has many natural advantages, of which the early occupiers were without doubt well aware.

At the edge of the field, nearest the river as marked in the photograph, most of the relics were found, and the abundance of debris observed, as well as the quantity of finished tools picked up in this very small area, was indicative of a prolonged settlement, the site of perhaps one

of the earliest flint implement factories existing in this district. Over a period of years of patient search, thousands of flakes of flint, cores, scrapers, and other worked tools have been picked up. Nearly eighty perfect little implements (pigmyies) were found, along with countless tiny chips and flakes evidently discarded during their manufacture. This part of the field seemed to have been the actual floor of the workshop.

Seldom attaining 1 inch in length, and of various shapes, each followed



Fig. 1. View of Tweed Bridge, Selkirk, from the north-east, showing the Tardenoisian site on The Rink Farm, marked with a white cross.

a definite pattern which only a set purpose will explain. The purpose, of course, of the smaller tools has been a problem to the archaeologist. The Tweed Bridge specimens are no exception; flint, green chert, and pebbles from the river-bed have all been used in their manufacture, their one similarity being the battered back, which in the case of some of the cruder specimens is the only method of identifying them from the multitude of chips of similar size which occur in the field (fig. 2).

Cores, scrapers, and hammer-stones were found in quantities equalled on no other site in the district. The scrapers and notched tools were usually crude, the pigmy implements being perhaps the high-water mark

of the craftsmen on the site. It is interesting to note, after ten years' surface work on the field, that April of last year should register the discovery of a small barbed arrow-head, the solitary example of its kind from the site, although in a field nearer the fort a very fine ripple-flaked, leaf-shaped specimen was found. Whether or not these were products of the pigmy workshop it is difficult to say, but we would be inclined to believe that the last at least belonged to a later period. The haugh land between the scaur and the river was devoid of either chips or

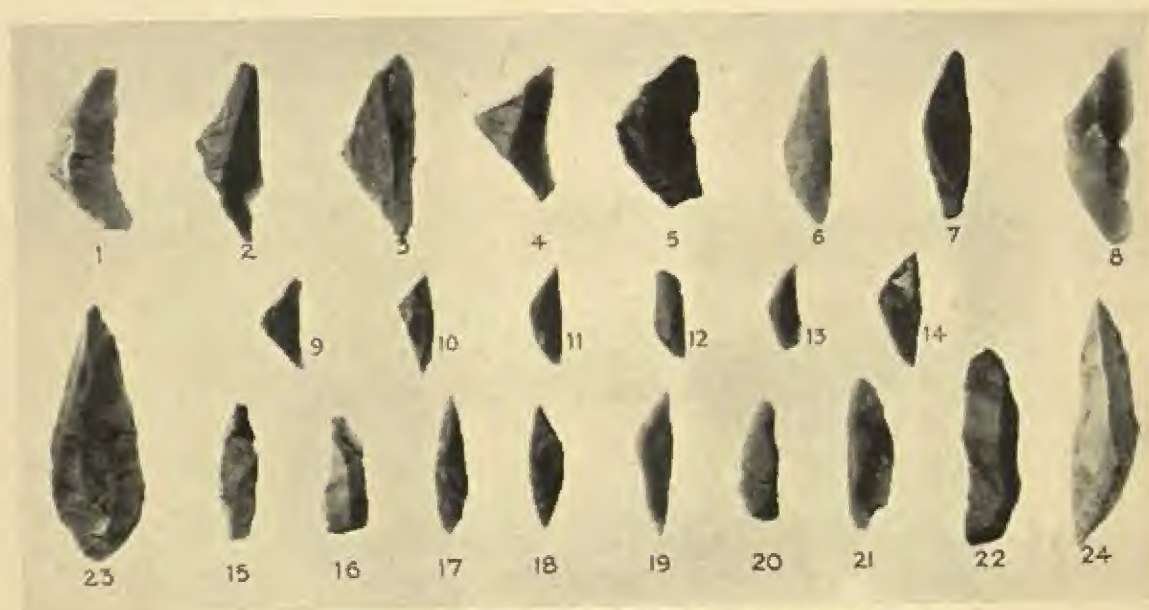


Fig. 2. Tardenoisian Flint Implements from The Rink, Selkirk. (1.)

tools, a fact which might be explained by the changing course of the river-bed, there being evidence of it having at one time run closer to the scaur, on the top of which all the finds occurred.

A finely polished stone axe, about 5 inches in length, made from a very hard material and showing signs of much use, was found, as also many stone sinkers. Some of the latter show abrasions at each end, having evidently been used as hammer-stones. Over twenty were found, and many hammer-stones were also picked up, the cruder specimens being mere quartz pebbles battered at both ends. The difficulty of assigning stone implements found on the surface to any one period is illustrated by the discovery of a dated and inscribed whorl in this area. Still we would be justified, I think, in assuming that most of the finds

mentioned have a connection with the pigmy flints, and that at this point of Tweed we have evidence of a very early factory.

The Bronze Age was represented among the relics by the fragment of a bronze penannular bracelet heavily patinated. On the same field as the leaf-shaped arrow-head a plain stone ball was found.

Pigmy implements occurred at one or two places in the vicinity. The only place where they were found in any quantity was directly across the river valley at Lindean, where in one field about thirty were found, and quite near that place others were picked up. Scrapers and cores accompanied these finds, but nowhere was there such a quantity of chips, hammer-stones, and other implements, as observed at Tweed Bridge. In the Lindean field small split pebbles of quartz with one face polished were observed, and they occurred on other sites in the district.

In all these instances the relics were found in fields which overlook or slope down to the rivers, and the proximity of the Tweed Bridge site and the similarity of the finds suggest that at this early period there were settlements along both banks of the river, whose inhabitants were in direct communication and had dealings with the factory situated at the meeting-place of the rivers. It is certain that man has been active here through the centuries, and the tiny implements and the fort on the hill are links in the chain which leads down the years to the dated whorl, and to a period when history records the struggles and achievements of the men of these valleys.

II.

SHORT CISTS IN ANGUS AND NAIRNSHIRE. BY ARTHUR J. H. EDWARDS, F.S.A.Scot., ASSISTANT KEEPER OF THE NATIONAL MUSEUM OF ANTIQUITIES OF SCOTLAND. WITH A REPORT ON THE HUMAN REMAINS CONTAINED IN THEM BY PROFESSOR ALEX. LOW, M.A., M.D., F.S.A.Scot.

CIST AT FLETCHERFIELD, FORFAR.

In the autumn of 1928, a report of the discovery of a stone cist which contained an urn, at the farm of Fletcherfield, situated about 3 miles north-west of the town of Forfar, was received at the Museum.



0 1 2 3 inches

Fig. 1. Beaker from Fletcherfield, Angus.

The cist, which was discovered during ploughing operations, lay about 350 yards north-west of the farm steading. Unfortunately, the stones which had composed the cist were removed before my arrival, and I was therefore unable to ascertain its internal dimensions.

It had, however, consisted of four slabs set on edge, with a cover-stone, and as the slabs had been preserved at the farm, I am able to give their measurements. One of the side stones measured 3 feet 2 inches in length by 1 foot 7 inches in height and 8 inches in thickness, and the other, 3 feet in length by 1 foot 6 inches in height and 3 inches in thickness. The end stones measured 1 foot 6 inches in length by 1 foot 4 inches in height, and 2 feet in length by 1 foot 7 inches in height, and from 3 to 4 inches in thickness respectively. The cover-stone measured 4 feet by 3 feet 2 inches by 4 inches. So far as I could learn, the direction in which the cist had lain was east and west.

Inside the cist was found a very fine beaker urn of clay (fig. 1), which measured $8\frac{1}{2}$ inches in height, $6\frac{1}{2}$ inches in external diameter at the mouth, and $3\frac{1}{2}$ inches in diameter at the base. The ornamentation on the urn was arranged in four horizontal zones, with plain bands

between, and consisted of a series of stamped impressions and plain lines. On the outer side of the lip, which was slightly bevelled on the outside, there was also an impressed design.

CIST AT KNOCKENNY, GLAMIS.

On the 2nd of March last, as a result of information received from the King's and Lord Treasurer's Remembrancer, I visited the farm of Knockenny in the parish of Glamis, Angus. The farmer, Mr James Bruce, had reported to the local authorities the finding of a cist when ploughing a field situated about 620 yards south-east of the steading. The cist was placed on the top of some rising ground and lay 150° E. of N. magnetic, or almost north-west and south-east. It was formed by four slabs set on edge, with a cover-stone which measured 4 feet 8 inches in length, 3 feet 7 inches in breadth at one end and 2 feet 3 inches at the other, the greatest thickness being 6 inches. The internal dimensions were 3 feet 4½ inches in length on the west side, 3 feet 5 inches in length on the east side, 2 feet in width at the north end, and 1 foot 11 inches in width at the south end. The slab at the south end measured 6 inches in thickness and was set outside the two side slabs, the west side slab, which measured 3½ inches in thickness, being set between the two end slabs. On the north and east sides of the cist the slabs measured 5 inches and 4 inches in thickness respectively. In spite of precautions taken by Mr Bruce to leave the cist undisturbed until it had been examined, it was unfortunately interfered with, and what might have been a valuable record was thus rendered incomplete.

The cist contained an unburnt human skeleton, a food-vessel urn, and a number of discoidal and barrel-shaped jet beads. Only a few bones remained in the grave, and these were recovered. Some fragments of the urn and a few of the beads (fig. 2) were picked up outside the grave from amongst the gravel which had been thrown out of the cist. The grieve, Mr Birnie, succeeded in recovering a few more by riddling the soil when the weather conditions were more favourable than on the occasion of my visit. Later, when Mr Callander visited Knockenny, he fortunately found other eight, three of which were barrel-shaped—discoidal beads only having been recovered up to that time. The beads were probably part of a necklace somewhat similar to that found at Culduthel, Inverness.¹

One of the barrel-shaped beads measured $\frac{7}{16}$ inch in length by $\frac{5}{32}$ inch in diameter, the second $\frac{7}{16}$ inch in length by $\frac{7}{32}$ inch in diameter, and the third $\frac{3}{8}$ inch in length by $\frac{11}{32}$ inch in diameter. The discoidal beads measured from $\frac{9}{32}$ inch to $\frac{3}{8}$ inch in diameter, the thickest being $\frac{1}{4}$ inch.

¹ *Proceedings*, vol. lxiii. pp. 217-24.

The food-vessel urn is incomplete, but it has probably measured between 6 and 7 inches in external diameter at the mouth. The height cannot now be ascertained. The lip is slightly bevelled towards the inside and measures $\frac{1}{2}$ inch in breadth. The upper part of



Fig. 2. Fragments of Food-vessel and Jet Beads from Knockenny, Angus.

the vessel is encircled by two raised mouldings $1\frac{1}{2}$ inch apart, the upper being $\frac{1}{2}$ inch below the rim, there being a distinct hollow just under the lip. On each of the raised mouldings and on top of the lip are impressions of a cord pattern, some placed obliquely, some vertically. In the hollow under the rim is a single row of impressions made by some indeterminate implement, with three similar rows between the mouldings and two on the remaining part below the second moulding.

The relics have been most generously presented to the Museum by Mr James Bruce.

CIST AT CARNACH, NAIRN.

In February of this year the Hon. D. H. Cairns very kindly sent information to the Director of the National Museum that a cist had been discovered near his house at Carnach, 2 miles west of Nairn. The cist was discovered by his gardener, Mr James Ritchie, when superintending the excavation of a cutting which was being made through a natural knoll situated about 25 yards east of the house. The cist was found near the centre of the knoll, the cover-stone being about 2 feet 6 inches from the surface. Over the cover-stone, and extending for a distance of 4 or 5 feet on all sides of the cist, were found a number of round land pebbles, which had thus formed a small cairn, the depth of pebbles immediately over the centre of the cover-stone being probably about 2 feet 4 inches in height. The cist, which lay nearly north and south, was formed of four sandstone slabs set on edge, the two end stones being inserted within the ends of the side stones. It was rectangular in shape and measured internally 4 feet 7 inches in length, 2 feet in width, and 2 feet 6 inches in depth. Both end stones measured 9 inches in thickness, and the side stones 6 inches and 8 inches respectively. The cover-stone measured 4 feet 7 inches in length, 3 feet 8 inches in breadth, and 11 inches in thickness at its thickest part. Amongst the gravelly sand which the cist contained were the bones of an unburnt skeleton, placed in a crouched or sitting position, with its head at the north end. The bottom of the cist was not paved. From information given by Mr Cairns, it is interesting to note that the sandstone slabs which formed the cist must have been brought from what is now known as King's Steps Quarry, a distance of $3\frac{1}{2}$ miles from Carnach or about $1\frac{1}{2}$ mile east of Nairn.

REPORT ON SKELETAL REMAINS FROM SHORT CISTS AT KNOCKENNY, ANGUS, AND CARNACH, NAIRN. By Professor ALEX. LOW.

KNOCKENNY SKELETON.

The skeleton is far from complete; parts are entirely missing, and most of the bones present are imperfect, due to portions being decayed away. The remains indicate an adult male of moderate muscular development, 5 feet 5 inches in stature.

The skull is represented by two pieces—one piece including most of the frontal region and the other made up of adjacent parts of the two

parietal and occipital bones. The frontal region is rather narrow, rounded, and fairly vertical, with moderately projecting superciliary ridges.

The only other parts of the skeleton present are two fragments of the pelvis; imperfect astragali; shaft of left humerus; a complete left femur and the middle two-thirds of the right femur; a complete left tibia and a practically complete right tibia.

The measurements in mm. of the left femur and left tibia are as follows:—

Femur :		Tibia :	
Maximum length	445	Maximum length	361
Oblique length	443	Ant. post. diam. . . .	29
<i>Upper third of shaft—</i>		Trans. diam. . . .	22
Ant. post. diam. . . .	25	<i>Platynemic index</i>	75·8
Trans. diam. . . .	32		
<i>Platymetric index</i>	78·1		
Angle of neck	120°		
Angle of torsion	17°		

The femur is a robust bone showing a good deal of torsion associated with flattening of the shaft below the lesser trochanter—*platymeria*. The stature, calculated from the length of the femur, is 5 feet 5 inches. The skeletal remains present features indicating the probability that they belonged to an individual of late Bronze Age times.

CARNACH SKELETON.

The skeleton described was contained in a short cist recovered at Carnach, Nairn, in the end of February 1931. The skeleton is now preserved in the Anatomical Museum at Aberdeen University, having been presented to the Museum by the Hon. D. H. Cairns of Carnach. An account of the discovery and structure of the cist is given by Mr Arthur J. H. Edwards, F.S.A.Scot., in the preceding pages.

The skeleton is fairly complete, though a number of the bones are imperfect, due to portions having decayed.

The Skull.—The cranial portion of the skull is well preserved, but unfortunately, except for the body of the lower jaw, the facial portion has crumbled away. Detailed measurements of the cranium are given in Table I. The cranium has male characters, the superciliary ridges are prominent, the mastoid processes stout, and the occipital lines well developed. The basilar suture is occluded, but all the sutural lines of the vault are open except that ossification has just commenced in the sagittal suture. The crowns of the teeth which are present in the lower

jaw are considerably worn. The skull is moderately thick-walled and has a small cubic capacity—1340 cc.—thus being *microcephalic*.

The profile view (fig. 3) shows a short skull, very low relative to both length and breadth—length-height index 69·7, and breadth-height index 81·8. The occiput is flattened both above and below and broad from side to side.

The temporal squamæ are low—distinctly lower than in modern skulls—



Fig. 3. Norma lateralis of Skull from Short Cist at Carnach, Nairn.

the mastoid processes are short and stout, and the glenoid cavities are shallow and broad.

The outline of the vault of the skull when viewed from above (fig. 4) is ovoid and relatively short and broad, the skull being included in the *hyperbrachycephalic* category, with a length-breadth index of 85·1.

The occipital view (fig. 5) shows a pentagonal outline, with parietal bosses well marked and high up, and sides of skull rather flat.

Bones of Trunk and Limbs.—The bones of the spine are represented by nine thoracic, the five lumbar vertebrae, and the upper three segments of the sacrum; the lumbar spine shows a well-developed lumbar curve.

The hip-bones are fragmentary, but show the narrow, deep sciatic notch characteristic of a male pelvis.

The long bones of the limbs are such as belong to a robust male of short stature. Detailed measurements and indices of the intact bones are given in Table II.

Humeri.—The humeri are complete except for some erosion of the greater tuberosity of the right. The shafts are of moderate strength, straight, and with the degree of torsion less than that of most modern bones; there is a difference of 11 mm. in the lengths of the bones—the right humerus measuring 335 mm. and the left 324 mm.



Fig. 4. Norma verticalis of Skull from Short Cist at Carnach, Nairn.

The left radius is complete and measures 262 mm. in length; the distal inch of the right radius is eroded away. Both bones are rather slender and straight and remarkable for their great length—the *radio-humeral* index of 80.8 is distinctly simian in character.

Both ulnæ are deficient in their distal inch; while the shafts of these bones are relatively slender, their olecranon processes are massive.

The femora have comparatively straight shafts, with the *linea aspera* slightly developed; their most striking features, however, are a large and prominent *crista hypotrochanterica* for the attachment of the *gluteus maximus* and marked subtrochanteric flattening—*platymeria*.

The tibiæ are deficient where they enter into the formation of the

ankle-joint; each bone is characterised by marked inclination backwards of its head and flattening of its shaft—*platynemia*.

The long and other bones of the skeleton indicate a male, thirty to thirty-five years of age, of moderate stature—5 feet 5 inches—and of



Fig. 5. Norma occipitalis of Skull from Short Cist at Carnach, Nairn.

strong, though not excessive, muscular development. The skeleton is of interest in showing several primitive characters, but on the whole conforms to the Alpine Bronze-Age type found in short cists in the north-east of Scotland.

TABLE I.

Measurements in mm. of Skull from Short Cist at Carnach, Nairn.

Sex	Male	Length foramen magnum	37
Cubic capacity	1340 cc. ap.	Transverse arc	304
Glabello-occipital length	175	Circumference	520
Ophyro-occipital length	172		
Nasio-inional length	170		
Minimum frontal breadth	96		
Maximum frontal breadth	120		
Parietal breadth	149		
Basibregmatic height	122		
Auricular height	110		
Biauricular breadth	130		
Basinasal length	95		
(Facial portion of skull deficient)			
Sagittal arc, 1	115		
" " 2	127		
" " 3	111		
	353		

Indices.

Length-breadth	85.1
Length-height	69.7
Breadth-height	81.8

Mandible.

Condyl-symph. length	—
Height at symphysis	29
Height at 2nd molar	26

TABLE II.

Measurements in mm. of Bones of Extremities from Short Cist at Carnach, Nairn.

Humerus :	R.	L.	Tibia :	R.	L.
Maximum length	335	324	Maximum length	—	—
Angle of torsion	146°	148°	Ant. post. diam.	36	36
Radius	—	262	Trans. diam.	22	21
Ulna	—	290 ap.	<i>Platycnemic index</i>	61.1	58.3
<i>Radio-humeral index</i>	—	80.8			
Femur :					
Maximum length	445	445			
Oblique length	439	440			
<i>Upper third of shaft—</i>					
Ant. post. diam.	25	25			
Trans. diam.	36	34			
<i>Platymetric index</i>	69.4	73.5			
Angle of neck	122°	124°			
Angle of torsion	24°	18°			

Stature as calculated from femur,
5 feet 5 inches.

III.

NOTE ON THE TOMBSTONE OF ROBERT INNES, 19TH OF THAT ILK,
AT ELGIN CATHEDRAL. BY THOMAS INNES OF LEARNEY AND
KINNAIRDY, F.S.A.Scot., CARRICK PURSUIVANT.

The subject of my remarks is a tombstone in Elgin Cathedral, of which a plaster cast is before you this afternoon (fig. 1). I hope it successfully demonstrates that a tombstone need not necessarily be a gloomy object.



Fig. 1. Tombstone of Robert Innes in Elgin Cathedral.

The original stone has already been incidentally referred to by my official predecessor, the late William Rae Macdonald, Carrick Pursuivant.¹ The old stone is becoming steadily more weathered, so two years ago, by permission of H.M. Office of Works, I had several casts made, including that before you to-day. The stone itself, like most tombstones, is not now a decoratively inspiring production. Nevertheless in the Middle Ages decoration in general, including even tombstones, was thoroughly bright and cheerful. In the fifteenth and sixteenth centuries many people erected their own, leaving only the date to be filled in by their posterity, who sometimes did not trouble to do so.² I have an

¹ *Proceedings*, vol. xxxiv. p. 366.

² (a) Monument of Robert Innes of Innermarkie at Elgin Cathedral. H. B. Mackintosh, M.B.E., *Elgin Past and Present*, p. 99. There is no incision of the stone at the place where

impression that the man who had erected "a verie costly lair"¹ with a polychromatic statue of his person, arrayed in the latest pattern of armour, reclining upon a sarcophagus with emblazoned shields, was exceedingly proud of it, and that it was the sort of thing which one took one's friends to admire. By the seventeenth century the attitude had become somewhat more lugubrious, and people did not so often erect their own tombstones. This one was erected shortly after 1613 by Sir Robert Innes of that Ilk, 20th Chief of the family, to the memory of his parents. At that time Elgin Cathedral still had a roof, and the monument of which this stone formed part was under cover in the south aisle of the Cathedral, the burial-place of the Innes family. In the subsequent collapse of the roof and fabric, the whole monument has been dashed to pieces. At the time Monteith wrote *The Theatre of Mortality* another portion of the monument was extant, bearing the inscription:—

Requiescunt hic Robertus Innes ab eodem, et Elizabetha Elphinstone ejus conjux, qui fatis concesserunt 25 Septemb. et 26 Febr. anno. sal. mun. 1597, et 1613. Ideoque in piam gratamque memoriam charissimorum parentum hoc monumentum extruendum curavit Robertus filius.²

Monteith's translation is:—

"Here rests Robert Innes of that Ilk and Elizabeth Elphinstone his spouse, who died as above, and therefore Robert their son caused this monument to be erected unto the pious and acceptable memory of his dearest parents."

I am confident that this monument was painted when it was originally erected under the protection of the Cathedral roof. Needless to say, after two centuries of exposure, there is now no trace of colouring on its weathered surface. One has only to compare the flat and uninteresting appearance of this piece of carving, in its uncoloured state, with the emblazoned version now before you, to realise that these carvings were intended, as indeed all heraldry is intended, for display in colour. The result has certainly met with my satisfaction, and this cast of the tombstone of my defunct chief is presently going to take its place as, I venture to suggest, a most suitable, not to say bright and attractive, ornament for the mantelpiece of my entrance-hall.³

The shield is the florid but symmetrical pattern popular in the second half of the sixteenth century, particularly during the reign of Lord Lyon

the date should commence, as I have verified personally. (b) Monument to Alexander Irvine of Drum, in St Nicholas Church, Aberdeen. J. Forbes Leslie, *The Irvines of Drum*, p. 49; *Proceedings of Society of Antiquaries*, vol. lxiv. p. 56.

¹ Billings, *Baronial Antiquities*, vol. i. p. 41.

² Shaw, *History of the Province of Moray*, vol. i. p. 391.

³ It is quite heraldically correct to display one's chief's arms above one's principal mantelpiece, provided that one's personal arms, if also displayed, shall not be above the chief's. Similarly a Crown vassal displays the Royal Arms above his mantelpiece, with his personal arms below.

Sir David Lindsay of the Mount, *secundus*, the poet's nephew. In this case the shield has been made considerably broader, to suit an impaled coat of arms. Above is the helmet with closed visor. The arms are Innes impaling Elphinstone, namely, *Dexter*, quarterly 1st and 4th, Argent, three mullets Azure, for Innes of that Ilk; 2nd and 3rd, Gules, three boars' heads couped Or, armed proper and langued Sable, for Aberchirder of that Ilk. *Sinister*, Argent, a chevron Sable between three boars' heads erased Gules, langued Azure, for Elphinstone. Since 1672 the mullets, or stars (as our old heralds blazon them), of Innes of that Ilk, have been depicted with six points. Prior to that time they were always of five points, and most of the cadets of the family still bear them in the ancient form. The six-point stars are an example of the seventeenth-century tendency to complicate heraldry in every possible way. A little later on, not content even with the six-point mullet of 1672, artists sometimes drew them as estoiles with scintillating rays, an unauthorised liberty which appears in the interesting *seize-quartiers* of Sir Henry Innes, younger of that Ilk, in 1698.¹ The arms of Aberchirder have an equally interesting history of heraldic mutation. They have long been borne as boars' heads erased, though the seals of successive chiefs vary between erased and couped. Earlier heralds, amongst them Sir David Lindsay of the Mount, depict them as *bears' heads muzzled Sable*, but the truth about them is preserved in Pont's manuscript² (in Lyon Office) from Dupplin Castle, which tells us they were originally wolves' heads. Now, Gules, three wolves' heads erased Argent, are the arms of the Perthshire Robertsons. Pont, however, tells us something further, that the old Thaness of Aberchirder bore, Argent, two oak branches slipped and fructed in chief, and in base an oak tree, eradicated, couped at the stem. There is evidence that the Thanage passed by succession through an heiress, Sybil de Aberchirder,³ to a branch of the Frendraughts of that Ilk, who bore wolves' heads in their arms,⁴ and came from Perthshire, being evidently, like the neighbouring Skenes of Skene, both branches of the great clan whose chief is Robertson of Struan. The change to boars' heads was probably made in the fifteenth century in deference to the insignia of the House of Huntly, which, originating on the Borders, shares with Elphinstones, Swintons, and others, the three boars' heads which subsequently passed with the Gordons to Aberdeenshire, and thence to Sutherland. The dexter supporter is the Innes greyhound, here shown with a plain blue colour, but it is usually borne, and is certainly registered, as a collar charged with

¹ The Aberchirder estates had been sold in portions, around 1630, and thereafter the Baronets of Innes ceased to quarter the Aberchirder boars' heads.

² P. 44, 46. Also Hamilton of Wishaw's MSS., p. 100 (L.O., Shelf F. 3).

³ *Familie of Innes*, p. 57.

⁴ W. R. Macdonald, *Scottish Armorial Seals*, Nos. 1013, 1014.

three stars. The sinister supporter, a man holding a club (here it is a branch—the foliage is evident), is the supporter of Lord Elphinstone. About this time it was a custom that when a man with supporters married the daughter of a family with supporters, their impaled coat was depicted, with one supporter from each family. Nowadays, we should simply show an Innes greyhound on either side. The crest is peculiar, in that it issues not from a wreath but from a species of cap, somewhat reminiscent of continental practice,¹ or of the Cap of Maintenance in its simpler form. An examination in various lights, of the original stone, shows traces of stars upon the Cap, and although I have coloured it as Argent, with three stars Azure, I expect I should have made it Azure with three stars Argent, same as the collar, when the boar's head, instead of being "proper," as it was blazoned in 1698, would have been Or, as given in Nisbet's plates. Of course the Lyon's decision must overrule Nisbet, but it is evidently the golden boar's head of Aberchirder, and the original Innes crest was a plume of feathers, or of foliage, as shown on the seal of Alexander Innes, 13th of that Ilk,² and which indeed still survives in the arms of several cadets of the family, in the form of a palm-branch.

I may conclude by telling you briefly the history of the Laird of Innes and his wife, who are commemorated by this tombstone, and of their son Robert, who erected the monument.

Robert Innes, 19th of that Ilk (modern enumeration), was born about 1561-2, and was a somewhat delicate youth of about sixteen to eighteen years³ when, in 1580, he succeeded his father Alexander Innes, 18th of that Ilk and 3rd of Cromey,⁴ who was murdered on 13th April, under particularly brutal circumstances, by his kinsman, Robert Innes of Innermarkie, a bold, bad baron with whose unsavoury career we are not concerned to-day. The young chief escaped his father's fate, was smuggled off to Edinburgh in romantic circumstances, and apparently came of age about 1582, and married to Elizabeth Elphinstone, third daughter of Robert, 3rd Lord Elphinstone, and sister of the Lord Treasurer. A couple of years later he set about avenging his father's murder, and in September 1584 surprised the Laird of Innermarkie in his castle of Edinglassie, where the old murderer met with a well-merited end.

¹ Cf. *Armorial de Gêdre, Proceedings*, vol. xxv, p. 9, Plates i and iii.

² H. Laing, *Supp. Catalogue of Seals*, p. 88, No. 526; Macdonald, *Scottish Armorial Seals*, Nos. 1417, 1420; *Familie of Innes*, pp. 89, 126.

³ Family tradition says about sixteen, but, as he had sasine of Innes in 1582, he would seem to have been a couple of years older.

⁴ This name is now spelt "Crombie," but the gaelic *b* is silent and the local pronunciation as well as most old deeds omit it, e.g. Cromee, Cromy, Cromle, Cronmay, Crumy.

It is somewhat revolting to learn that the surprise was effected through the treachery of Innermarkie's son, a young man who in 1567, at the age of thirteen, was sent to France with John Douglas, his pedagogue,¹ but apparently came back the worse of his experience at the French Court. At any rate he put himself under interdiction in 1578, on the ground that he had an evil disposition, many wicked friends, and could not control his extravagance.² Having contracted expensive debts, in anticipation of the old Laird's "inlaik," he agreed to betray his father to the avenger, due provision being made as to,

"quhow all thingis suld be quyattit and quhow he suld eschew the bruit and sklander of the moyen makeing of the slauchter off his father."³

One is rather glad to think that this hush-up provision seems to have been ineffectual.

Having avenged his father's death, through the connivance of the murderer's undutiful son, Robert the young Laird of Innes and his wife settled down to a more or less quiet life, which may have been as much due to the young chief's health as to other considerations, for his death in 1597 indicates that he only attained the age of thirty-six. Elizabeth Elphinstone survived him for thirteen years, and no doubt had to bring up her son, the future baronet.

Sir Robert Innes of that Ilk, 20th chief from Berowald, and ancestor of the Duke of Roxburghe, must have been born a few years after 1582, and he evidently had happy recollections of both his parents, which he has embodied in the inscription he placed upon their monument. He was page to Henry Prince of Wales, and subsequently Member of Parliament for Elgin and Forres. He built the present Innes House, instead of the old Place of Innes, which had no doubt fallen into disrepair, since his father resided principally at Kinnairdy. On 18th December 1611 he married Lady Grizel Stewart, daughter of the "Bonnie Earl of Moray," and a granddaughter of the "Good Regent." Sir Robert was one of the first baronets created on 29th May 1625, and although a strong Covenanter he was a trusted friend and a Privy Councillor of Charles I. He died 17th November 1658, esteemed both by Royalists and Covenanters. Brodie of Brodie says of his disposition,⁴ that he was "so happy that we never had more peace than in his time, and good understandings among all the families in our country, more than had been for many ages before."

¹ *Acts and Decs.*, vol. xix. p. 353.

² Deed of Interdiction, registered 23rd November 1579. *Acts and Decs.*, vol. lxxvi. p. 323.

³ Innes Charter Chest. B-11-2. *Familie of Innes*, p. 128.

⁴ *Familie of Innes*, p. 172.

IV.

NAMES OF POTTERS ON SAMIAN WARE FOUND IN SCOTLAND.

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F.S.A. SCOT.

The printing of the following paper completes an undertaking originally begun more than a quarter of a century ago. It was laid aside when the mass of new material that began to emerge from Newstead showed the desirability of waiting until the excavation of that site had been completed. Lack of leisure has prevented its resumption in the interval, but the postponement has, of course, been all to the good. Apart from the direct fruits of Mr Curle's harvesting, the publication of *A Roman Frontier Post* gave a valuable stimulus to the scientific study of Samian ware as a whole. Since it appeared, progress has been rapid. In many cases it is now possible to say, with some approach to certainty, where a particular example was manufactured, and even to fix its date within a period of twenty or thirty years. As a rule, the individual potters used their own names as trade-marks. With the advance of knowledge along the lines just indicated, these names have acquired a fresh significance. A list of the craftsmen whose goods made their way into Scotland during the two periods when Roman troops were in garrison north of the Border, between A.D. 80 and about A.D. 180, can therefore hardly fail to be of interest. Scrutinised with the necessary caution, it may help to suggest or to confirm historical inferences of a wider character.

Mr Curle's article in our *Proceedings* (li. pp. 130 ff.), with the introductory paragraphs of the Appendix contributed by Mr E. B. Birley to No. 3 of the series of *London Museum Catalogues*, enables me to dispense with any preliminary observations on chronology, on the distribution of the various manufacturing centres, and on the gradual transference of the industry from Southern Gaul to the banks of the Rhine. But the chief obligation I have to acknowledge is to Dr Felix Oswald's *Index of Potters' Stamps on Terra Sigillata*. My own list was, indeed, complete before that monumental work came into my hands. As soon as it did so, however, I recognised that, whatever modifications in matters of detail might ultimately be called for, the broad lines which it laid down were bound to serve as the basis for all future compilations of the kind. I have therefore adopted *sans phrase* the author's conclusions as to the 'floruit' of the various potters, and as to the locality or localities in which their kilns were situated. The numbers enclosed within brackets

after the names of sites indicate the shapes of the vessels concerned, the letter *x* being employed where the piece cited is no longer accessible. It is hardly necessary to add that the conventional system of numeration has been adhered to. The designation '18/31' has, however, been interpreted somewhat liberally, being applied to all the fragments of platters which it was difficult to class confidently as either 18 or 31, occasionally because so little of them was left.

The great majority of the stamps recorded are in the National Museum. Most of the others are in the Hunterian Museum, Glasgow, but two or three are in the Museum in the Dollar Park at Falkirk, and two or three are in private hands. A very few are cited from the earlier literature, and several I copied about 1907, when they were in the possession of a workman then employed in the foundry that occupies the site of Camelon. Those which I have had no opportunity of examining personally are marked with an asterisk. Incidentally, a good many of the readings given in previous volumes of the *Proceedings* and elsewhere are corrected *sub silentio*, as only here and there did it seem worth while making specific mention of emendations. I have to thank Mr Birley for help in deciphering one or two of the more difficult names. With it all, a substantial residuum of doubtful examples has been excluded. None that are not reasonably certain have been admitted.¹

A. NAMES ON UNDECORATED WARE.²

1. ADJECTUS of Lezoux. Period: Antonine.
ADIECTI[MA]—*Inchgarvie, near Queensferry (*x*), described in *Stat. Aect. of Scotland*, i. (1791), p. 238; *Cramond (*x*), noted in Wilson, *Prehist. Ann. of Scot.*², ii. p. 76.
2. ADVOCISUS of Lezoux and Lubié. Period: Hadrian-Antonine.
[AD]VOCISI·O—Newstead (33).
3. AELIANUS of Lezoux. Period: Hadrian-Antonine.
AEL[IANI]—Mumrills (18/31). This reading cannot be regarded as quite certain.
4. AELIUS of Lezoux (?). Period: Hadrian-Antonine (?).
AELIM—Castlecary (27). This is the AHIM of Wilson, *Prehist. Ann. of Scot.*², ii. p. 76. I share the doubts which Dr Oswald expresses as to the home and period of the potter. To my eye the colour and texture of the fragment seem suggestive of Southern rather than of Central Gaul.
5. AESTIVUS of Lezoux. Period: Hadrian-Antonine.
AESTIVI·M—Castlecary (33).

¹ Square brackets have generally been used where letters have had to be supplied. But the absence of these does not necessarily imply that the name is complete on all of the examples cited.

² With the exception of No. 14 all of these are stamped across the inside of the bottom.

6. AETERNUS of Lezoux. Period: Hadrian-Antonine.
[M·INR]ETEA—Newstead (33).
7. AFRICANUS of St Bonnet, Iseure. Period: Hadrian.
AFRICANM—Mumrills (33).
8. ALBINUS of Lezoux. Period: Trajan-Antonine.
A·L·B·I·N·I·M—Castlecary (33).
9. ALBINUS, G., of South Gaul. Period: Nero-Vespasian.
G·ALBINIM—Camelon (27).
10. ALBUCIANUS of Lezoux. Period: Antonine.
ALB[VCI]ANI—Traprain Law (33).
11. ALBUCIUS of Lezoux. Period: Trajan-Antonine.
ALBVC·I—Birrens (33, two, if not three, examples).
AL[B]VCI—Balmuildy (31).
12. AMBITOTUS of East Gaul. Period: Antonine.
MBI[TOT]V—Newstead (18).
13. ANNIUS of Lezoux. Period: Trajan-Hadrian.
M·INNA—Camelon (18/31). The registered provenance of this fragment is Falkirk. But it probably came from Camelon. The two sites are often confused.
14. ATTIANUS of Lezoux. Period: Hadrian-Antonine.
ATTIANIM—Camelon (44). As usual with vessels of this shape, the stamp is on the outside.
15. AVENTINUS of Lezoux. Period: Hadrian-Antonine.
AVENTINI·M—Newstead (33); possibly Mumrills (18/31).
16. AUGUSTUS of Rheinzabern and Westerndorf. Period: Late Antonine.
AVGV[S . .]—Newstead (31). In the absence of the termination one cannot be quite certain as to the name, but I have chosen the alternative which seemed to suit the spacing best.
17. AVITUS of Lezoux. Period: Vespasian-Trajan.
AVITI·MA—Ardoch (33); Mumrills (18/31); Newstead (18/31).
[A]VITVSFEC—Newstead (18/31). Dr Oswald assigns this form of stamp to a later Avitus. The fragment was, however, found in an early pit (*A Roman Frontier Post*, p. 112).
18. AVITUS of Ittenweiler and Rheinzabern. Period: Hadrian-Antonine.
AVITVS—Camelon (18/31); Newstead (31).
AVITVSF—Bar Hill (31); Camelon (31); Newstead (31, six examples).
AVIT[VSE]—Newstead (31). The reading is not quite certain, but it suits the spacing.
19. BANOLUCCUS of Lezoux. Period: Antonine.
BANOL[V]CCI—Newstead (31).
20. BANVILLUS of Lezoux. Period: Hadrian-Antonine.
BANVILLIM—Balmuildy (31, probably two examples); Camelon (33).
21. BELINI(C)CUS of Lezoux. Period: Trajan-Antonine.
BELINICIM—Bar Hill (31).
MIOINI·JEB—Camelon (33, two examples); Newstead (33, two examples).

22. BELLUS of Lezoux. Period: Hadrian-Antonine.
BELLVSF—Newstead (33).
23. BITVNUS of Blickweiler. Period: Trajan-Hadrian.
BITVN[VS]—Newstead (31).
24. BORILLUS of Lezoux. Period: Trajan-Antonine.
BORILLI·OF—Balmuilty (31 and 33); Camelon (33); Mumrills (33);
Newstead (18/31 and two examples of 33).
BORILLI·OFFIC—Balmuilty (33); Birrens (31); Camelon (18/31 and 33).
25. BRICCUS of Lezoux and Lubié. Period: Hadrian-Antonine.
BRICCVS·F—Mumrills (18/31).
26. BUCCULA of Lezoux. Period: Hadrian-Antonine.
BVCCVLA·F—Birrens (33).
27. BUTTURRUS of Lezoux. Period: Antonine.
BVTTVRRRI—Camelon (33).
28. CADGATIS of Lezoux. Period: Domitian-Trajan.
CA·DGA·TIS·F—Camelon (33).
TITADGAT—Castlecary (33).
29. CALVINUS of La Graufesenque. Period: Vespasian.
CALVINI·M—Mumrills (18/31).
30. CALVUS of La Graufesenque. Period: Nero-Domitian; mainly Vespasian.
OF CALVI—Camelon (18, two examples); Newstead (27). The Newstead example is not quite certain, but the piece is undoubtedly of early date, as it came from an early pit.
OF CAL—*Castlecary (x), noted in Wilson, *Prehist. Ann. of Scot.*, ii. p. 76; *Camelon (x), noted *ibid.*, where the stamp is read as OPCAL and the provenance given as Grahamston.
31. CARATILLUS of Lezoux. Period: Antonine.
CARATILLI—Camelon (18/31 and 33); Newstead (33).
32. CARROTALUS of Avocourt and Pont-des-Rêmes (Florent). Period: Antonine.
CARR[OTA]LVS—Newstead (31).
33. CARUSSA of Lezoux. Period: Domitian-Antonine.
CA·RVSSA—Newstead (18/31, two examples).
34. CASSIUS of Heiligenberg. Period: Domitian-Antonine.
CASSIVS·F—Mumrills (27); Newstead (18/31).
35. CASURIUS, L., of Lubié. Period: Hadrian-Antonine.
CASVRIVSF—Cadder (18/31).
CASV[. . .]—Cadder (18/31).
36. CATVS of East Gaul. Period: Trajan-Hadrian.
CATVSF—Birrens (33). This reading is not quite certain.
37. CENSORINVS of Lezoux. Period: Trajan-Antonine.
CESORINI—Newstead (33).
38. CERIALIS of Lezoux. Period: Trajan-Hadrian.
[CE]RIALI·M—Newstead (27).

39. CHRESIMUS of Montans. Period: Flavian.
 CHRESIM—Inveresk (18/31, two examples); Traprain Law (18/31).
 CHRESIM—Newstead (27).
40. CINTUGENUS of Lubié. Period: Trajan-Hadrian.
 CINT·VGENI—Newstead (31).
41. CINTUSMUS of Lavoye, Ittenweiler, Rheinzabern, and Westerndorf.
 Period: Hadrian-Antonine.
 CINTVSMVSF—Castlecary (33).
42. CIRRUS of Lezoux. Period: Trajan-Antonine.
 CIRRI·M—Mumrills (33).
43. COCCILUS of Lezoux. Period: Hadrian-Antonine.
 COCCI·L·M—Newstead (33).
44. COIUS of South Gaul. Period: Flavian.
 OFCO·IVS—Newstead (18).
45. COMPRINNVS of Lezoux. Period: Second Century.
 COMPRIN[F]—Cadder (31).
46. COSIUS and RUFINUS of La Graufesenque. Period: Flavian.
 COSI·RV—Newstead (18).
 COSI·RV[F]—Camelon (18).
47. COTTO of South Gaul. Period: Flavian.
 OF COTTO—Newstead (18).
48. CRACUNA of Lezoux, and later at Pont-des-Rêmes (Florent). Period:
 Hadrian-Late Antonine.
 CRACVNA·F—Balmuilty (33); Castlecary (33); Inveresk (33); Newstead
 (27 and 18/31).
49. CRECIRO of Banassac. Period: Vespasian-Trajan.
 CRECIRO·OFI—Mumrills (18).
50. CRICIRO of Lezoux. Period: Trajan-Hadrian.
 CRICIRONIS—Camelon (18/31).
51. CRISPUS of La Graufesenque and Montans. Period: Claudius-Domitian.
 CRISPI·M—Newstead (33).
52. CUCALUS of Lezoux. Period: Hadrian-Antonine.
 CVCALIM[A]—Old Kilpatrick (27).
53. CUCCILLUS of Lezoux. Period: Antonine.
 CVCCILM—Balmuilty (27); Newstead (18/31).
54. CUDUS of Lezoux (?). Period: Hadrian-Antonine.
 CVDI·M—Newstead (31).
55. DAGOMARUS of Lezoux. Period: Flavian.
 DAGOMA[RVS]—Traprain Law (18/31).
 DAGO—Newstead (27).
56. DIVICATUS of Lezoux. Period: Hadrian-Antonine.
 DIVICATVS—Bar Hill (33); Newstead (33).
57. DO(V)ECCUS of Lezoux and Lubié. Period: Hadrian-Antonine.
 DOVHCCVS—Rough Castle (33).

58. DOMITIANUS of Heiligenberg and Kräherwald. Period: Trajan-Hadrian.
 DOM[ITIANVS·F]—Castleary (31). Another fragment of a similar vessel in the National Museum preserves the name in full. But nothing definite can be said about its provenance, except that it is probably Scottish.
59. DRAUCUS of Montans. Period: Domitian-Trajan.
 DRAVCI—Newstead (33).
60. DROMBUS of Heiligenberg. Period: Hadrian.
 NORO—Mumrills (33).
61. DUPPIUS of Lezoux. Period: Hadrian-Antonine.
 DVΦIVS·F—Newstead (33).
62. ERICUS of Lezoux (?). Period: Domitian-Trajan.
 ERICI·M—Camelon (18/31).
63. FELICIO of Montans. Period: Claudius-Vespasian.
 OIOIJ33—Old Kilpatrick (18/31). This is *Old Kilp.*, Pl. xvii. 8.
64. FELIX of Montans and La Graufesenque. Period: Claudius-Vespasian.
 FE[LIX]·F—Camelon (18/31).
 ·XIJ33—Newstead (27).
65. FIRMO of La Graufesenque and Montans. Period: Claudius-Domitian.
 O·FIRMON—Newstead (18).
 OFFIRMON—Camelon (18).
66. FIRMUS of Lezoux. Period Flavian (?).
 FIRM1·AN—Camelon (18).
67. FIRMUS of Heiligenberg, Ittenweiler, Rheinzabern, Kräherwald, and Westerndorf. Period: Trajan-Antonine.
 FIRMVS·F—Newstead (33).
68. FRONTINUS of La Graufesenque. Period: Nero-Trajan.
 OFRON+NI—Newstead (18).
69. GATUS of Heddernheim (?). Period: Hadrian-Antonine.
 GATVSF—Cramond (18), apparently the CARVSF of Wilson, *Prehist. Ann. of Scot.*, ii. p. 76; *Traprain Law (c), without F.
70. GEMELLUS of Heiligenberg and Rheinzabern. Period: Hadrian-Antonine.
 [GE]MELLI·M—Mumrills (18/31).
71. GEMINUS of Lezoux. Period: Hadrian-Late Antonine.
 GEMINIA—Camelon (33, two examples); Newstead (33, two examples).
 GEMINI[M]—Balmuildy (33).
 INIMIID—Inveresk (33).
72. GNATIUS of La Madeleine (?). Period: Trajan-Antonine.
 GNAT[. . .]—Camelon (a).
 GNA[. . .]—Newstead (31).
 GN[. . .]—Camelon (18/31).

73. GONDIUS¹ of Lezoux. Period: Hadrian-Antonine.
GONCI·M—Camelon (33); Old Kilpatrick (33).
74. JANUARIS of Lezoux. Period: Domitian-Hadrian.
IANVARIS—Newstead (31).
75. IASSUS of Rheinzabern and Westerndorf. Period: Antonine.
IASSVS·F—Newstead (31).
76. ILLIOMARUS of Lezoux. Period: Claudius-Vespasian.
ILLIOM[. . .]—Old Kilpatrick (*cf.* Ritt. 8).
77. ILLIXO of Lezoux. Period: Trajan-Antonine.
ILLIXO—Old Kilpatrick (18/31).
ILLIXO—Old Kilpatrick (18/31); Newstead (31). The latter is the
OXMII of Wilson, *Prehist. Ann. of Scot.*², ii. p. 76.
78. JVCUNDUS of La Graufesenque. Period: Claudius-Flavian.
OF·IVCVN—Camelon (27); *Cramond (x), noted in Wilson, *l.c.*; New-
stead (27, two examples).
79. JULICUS of Lezoux. Period: Domitian-Antonine.
IVLICCI·M—Balmuilty (33).
80. JULLINUS of Lezoux. Period: Flavian-Antonine.
IVLLIWI—Newstead (18).
81. JULLUS of Montans. Period: Nero-Trajan.
IVLLI—Newstead (27, three examples).
82. LIBERTUS of Lezoux. Period: Vespasian-Trajan.
LIBERTI·M—Castlecary (33).
83. LOGIRNUS of La Graufesenque and Montans. Period: Flavian.
LOG[. . .]—Camelon (18, two examples).
84. MACER of La Graufesenque. Period: Nero-Vespasian.
MACRIM—Newstead (33).
MAC[. . .]—Camelon (18/31). The name is obviously not quite certain.
85. MALLEDO of Lezoux. Period: Trajan-Antonine.
MALLED OF—Newstead (33).
86. MALLIACUS of Lezoux. Period: Trajan-Antonine.
MALLIACI—Balmuilty (33).
87. MALLURO of Lezoux. Period: Vespasian-Hadrian.
MALLVROF—Bar Hill (31).
88. MAMMIUS of Lezoux. Period: Trajan-Antonine.
MAMMI—Camelon (33); Newstead (33).
89. MARCELLUS of Lezoux and Mandeure(?). Period: Hadrian-Antonine.
MARCELL[IM]—Newstead (18/31).
MARCELLIM—Newstead (31).
MARCIILIM—Newstead (31).
[MARCEL]LIM—Mumrills (31). This is obviously not quite certain.
90. MARCUS of Lezoux. Period: Hadrian-Antonine.
MARCI—Newstead (31).

¹ This form of the name seems preferable to CONDIUS or CONGIUS.

91. MARITUMUS of Lezoux. Period: Hadrian-Antonine.
 MARITVMI—*Castlecary (x), noted in Wilson, *Prehist. Ann. of Scot.*,
 ii, p. 76, where the stamp appears as MAR·IV·M.
92. MASCULUS of La Graufesenque. Period: Claudius-Early Vespasian.
 OFMASCVL—Newstead (18).
93. MATTHIUS—of Lezoux. Period: Hadrian-Antonine.
 MATTI·M—Camelon (33); Mumrills (33); Newstead (33).
94. MAXIMUS of Lezoux. Period: Hadrian-Antonine.
 MXIMI—Birrens (33).
95. MEMOR of La Graufesenque. Period: Claudius-Vespasian.
 MEMO[RISM]—Newstead (18).
 MEM[. . .]—Camelon (x).
96. METTIUS of Lezoux. Period: Trajan-Antonine.
 METTI·M—Newstead (33 and large bowl).
97. MICCIO of Lubié. Period: Trajan-Antonine.
 MI[CCI]O·F—Newstead (18/31, two examples).
98. MINERTUS.
 MINERTI OFF—Camelon (x). This stamp does not appear in Dr
 Oswald's *Index*, the only analogy to it being MINERTIA from
 Aldborough (*C.I.L.*, vii. 1336, 711). The material was evidently
 too scanty to justify any endeavour to identify the potter. Nor
 does the Camelon example help much, except as to the name. I
 give it as it was copied into my notebook about 1907. The form
 is perhaps suggestive of a late rather than an early date.
99. MOX(S)IUS of Lezoux and Lubié. Period: Vespasian-Hadrian.
 [MO]XSI·M—Camelon (x).
100. MUXTULLUS of Lezoux. Period: Hadrian-Antonine.
 MVXTVLLIM—Camelon (18/31, three examples).
101. PATER of Lezoux. Period: Hadrian-Antonine.
 PATER·F—Newstead (33).
102. PATERATUS of Lezoux. Period: Hadrian-Antonine.
 PATIRATI·OF—*Castlecary (x), noted in Wilson, *Prehist. Ann. of*
Scot., ii, p. 76, where PATIRATI·OF is read.
103. PATERNUS of Lezoux. Period: Trajan-Antonine.
 IIRETAP—Balmildy (33).
104. PATRICIUS of La Graufesenque. Period: Nero-Domitian.
 OF PAT[RICI]—Camelon (18).
105. PATRICIUS of Lezoux. Period: Trajan-Antonine.
 PATRICIVSF—Newstead (31 and possibly 33).
106. PECULIARIS of Lezoux. Period: Domitian-Antonine.
 P[ECV]IAR·F—Newstead (31 and 33).
 P[ECV]LIARISF—Bar Hill (31); Camelon (18/31); Newstead (31); Rough
 Castle (31).
107. PEREGRINUS of South Gaul. Period: Domitian.
 PEREGRIN—Camelon (18 and x).

108. POTTACUS of Lezoux. Period: Hadrian-Antonine.
POT·[TACVS]—Birrens (18/31).
109. PRIMIGENIUS of Lezoux. Period: Antonine.
PRIMIGENIM—Newstead (31).
110. PRIMULUS of Lezoux. Period: Hadrian-Antonine.
PRIMVLI—Old Kilpatrick (33).
111. PRIMUS of Montans and La Graufesenque. Period: Claudius-Vespasian.
P·~~RM~~·M—Newstead (27).
PRM·M—Camelon (33).
112. PRISCUS of Blickweiler and Eschweilerhof. Period: Hadrian-Antonine.
PRISCVSF—Castlecary (33).
113. PROBUS of Ittenweiler and Rheinzabern. Period: Hadrian-Antonine.
PROBVS·F—Newstead (33).
114. PUGNUS of Lezoux. Period: Hadrian-Antonine.
PVGNIM—Camelon (18/31).
115. Q. V. C. of Lezoux. Period: Hadrian-Antonine.
Q·V·C—Newstead (27).
116. QUINTILIANUS of Lezoux, Vichy, and Lubié. Period: Hadrian-Antonine.
[QV]INTILIANIM—Inveresk (31).
117. QUINTUS of Lezoux. Period: Hadrian-Antonine.
QVINTI—Newstead (27); Camelon (27). One or both of those stamps may belong to a potter of the same name who worked at Montans and La Graufesenque during the period: Claudius-Vespasian.
*QVINTI·M—Newstead (27).
118. REBURRUS of Lezoux. Period: Trajan-Antonine.
[REB]VRRIOF—Birrens (33).
119. REDITUS of Lezoux. Period: Trajan-Antonine.
REDITI·M—Camelon (33).
120. REGALIS of Lezoux. Period: Domitian-Antonine.
REGALISF—Newstead (31).
121. REGINUS of Lezoux, Lubié, and (?) Mandeure. Period: Domitian-Antonine.
REGINI·M—Newstead (33, two examples).
RIIGNI—Newstead (33).
122. RITOGENUS of Lezoux. Period: Antonine.
RIIOGENIM—Ardoch (31); Balmuldy (31); Birrens (18/31); Camelon (18/31 and 33); Mumrills (31); Old Kilpatrick (31).
123. RUFFUS of Lezoux. Period: Hadrian-Antonine.
RVFFI·MA—Cappuck (33); Newstead (27 and 33).
RVFFI·M—Newstead (31).
124. RUFUS of La Graufesenque and Montans. Period: Nero-Vespasian.
OF RVF—Newstead (27).

125. SABINUS of La Graufesenque and Montans. Period: Nero-Domitian.
 SABINVS · F—Newstead (Curle 2).
 OF SAB—Newstead (Curle 2).
126. SACER of Lezoux. Period: Trajan-Antonine.
 SACER · OF—*Birrens (x), noted in Wilson, *Prehist. Ann. of Scot.*,
 ii. p. 76, where the stamp is read SAC · EROR.
127. SAC(1)RAPUS of Lezoux. Period: Antonine.
 SACIRAPO—*Castlecary (x), noted in Wilson, *l.c.*
128. SACIRO of Lezoux and Blickweiler. Period: Trajan-Antonine.
 [S]ACIRO · F—Newstead (31).
129. SAMILLUS of Lezoux. Period: Hadrian-Antonine.
 SAMILLI · M—Newstead (33).
130. SCIPIUS of Montans. Period: Nero-Vespasian (?).
 SCPIV—Camelon (27).
131. SECUNDINUS of Lezoux. Period: Domitian-Trajan.
 SECVNDINVS—Newstead (18/31).
 [SECVN]DINI · M—Rough Castle (18/31).
132. SECUNDUS of La Graufesenque. Period: Claudius-Vespasian.
 SECVDI OF—Newstead (27).
 O SECVN—Camelon (27).
 NVQD[290]—Newstead (18).
133. SECUNDUS of Lezoux. Period: Flavian.
 [SEC]VNDVS—Camelon (18). The lack of the first three letters leaves
 the name a little doubtful. But the shape of the dish and its
 colour and texture all favour an early date.
134. SENILA of Lezoux. Period: Antonine.
 SENILA · M—Newstead (33).
135. SEVERUS of La Graufesenque. Period: Nero-Vespasian.
 O SEVER—Newstead (18).
136. SEVERUS of Lezoux. Period: Trajan-Antonine.
 SEVERV · S—Camelon (33); Newstead (33).
 SEVERV · S · F—Balmuildy (33).
137. SILVANUS of La Graufesenque. Period: Claudius-Vespasian.
 SILVANI—Newstead (18, two examples).
138. SINTURUS of Lezoux. Period: Trajan-Antonine.
 SINTVR[V · F]—Camelon (18/31, two examples).
139. SUOBNILLUS of Lezoux. Period: Trajan-Antonine.
 SVOBN[ILLI]—Mumrills (18/31); Newstead (27).
 SV[OBNIL]LI · M—Camelon (18/31).
140. SUOBNUS of Lezoux. Period: Trajan-Antonine.
 SVOB · NI · M—Ardoch (18/31); Camelon (18/31, three examples); New-
 stead (31).
141. SURIUS of Montans. Period: Nero-Vespasian.
 OF 2VRII—Camelon (27, three examples).
142. TASGILLUS of Lezoux. Period: Domitian-Hadrian.
 TASGILLIM—Camelon (33); Rough Castle (33).

143. L. TERENTIUS SECUNDUS of Montans (?). Period : Flavian-Trajan.
 LÆSECA—Castlecary (27). This is the IRSECA of Wilson, *Prehist.*
Ann. of Scot., ii. p. 76.
144. TERTULLUS of Lezoux. Period : Hadrian (?).
 TERTVLLI—Camelon (x).
145. TITTIUS of Lezoux. Period : Domitian-Antonine.
 TITTIVS · F—Newstead (18/31).
146. TITUS of Lezoux. Period : Hadrian-Antonine.
 TITI · M—Mumrills (18/31).
 T·OFFIC—Newstead (33).
147. TULLUS of Pont-des-Rêmes (Florent). Period : Hadrian-Antonine.
 TVLLVS · F—Newstead (33, two examples).
148. UXOPILLUS of Lezoux. Period : Antonine.
 [VX]OPILLI · M—Newstead (18/31, two examples).
149. VALERIUS of Montans. Period : Tiberius-Nero.
 OFVAL—*Cramond (x), noted in Wilson, *l.c.*
150. VAREDO of East Gaul. Period : Antonine.
 VAREDVFATIP—Birrens (18/31).
151. VEGETUS of Lezoux. Period : Antonine.
 VEGETI · M—Newstead (31).
152. VERUS of Rheinzabern and Westerdorf. Period : Antonine and Late
 Antonine.
 [V]ERVSE—Camelon (31). This name cannot be regarded as quite certain.
153. VESPONIUS of Lezoux. Period : Hadrian-Antonine.
 VESPONI—Newstead (33).
154. VINIUS of South Gaul. Period : Flavian.
 VINI—Camelon (27).
155. VIRONIUS—
 VIRO[NIMA]—Camelon (27).
 VIR[ONIM]—Camelon (27).
156. VITALIS of La Graufesenque. Period : Claudius-Domitian.
 VITAL—Newstead (27).
 OF VITAL—Newstead (18, two examples).
 OF VITA—Newstead (18, 18/31, and Curle 2).
 OF V[. . .] Newstead (18 and 27).

B. NAMES ON DECORATED WARE.

(a) *Inside, across the bottom.*

157. CHRRESIMUS. Cf. No. 39, *supra*.
 CRRESIMI—Camelon (37).
158. COSIUS and RUFINUS. Cf. No. 46, *supra*.
 COSIRV—Camelon (29).
159. FELIX. Cf. No. 64, *supra*.
 FELICISO—Camelon (37).

160. FRONTINUS. *Cf.* No. 68, *supra*.
 ⓄFRONINI—Camelon (29). This is on the same vessel as No. 173.
161. HABILIS, Q. IULIUS, of South Gaul. Period: Flavian.
 Q·IV[L·HABI]—Newstead (29).
162. RUFINUS of La Graufesenque and Banassac. Period: Nero-Domitian.
 OF·RVFINI—Camelon (29); Newstead (29).
163. VERECUNDUS of La Graufesenque. Period: Claudius-Vespasian.
 VERCVFE—Camelon (29). Dr Oswald does not record this form of stamp as having been used by Verecundus of La Graufesenque, but it can hardly belong to either of the other two potters of the same name. They are later, while (29) is a characteristically first-century shape.
164. VERIUS, S., of South Gaul. Period: Vespasian.
 S·VIIRIVS—Camelon (37).

(b) *Outside, on zone beneath decoration.*

165. ATTIANUS. *Cf.* No. 14, *supra*.
 O·IAITTA—*Newstead (30).
166. AVENTINUS. *Cf.* No. 15, *supra*.
 AVENTINI·M—Newstead (37).
167. CRICIRO. *Cf.* No. 50, *supra*.
 ORICIRO in cursive script (*cf.* *J.R.S.*, xvii. Pl. vii. Nos. 30-32)—
 Mumrills (37).
 RC—Mumrills (37).
168. DIVIXTUS of Lezoux. Period: Trajan-Antonine.
 DIVIX·F—Balmuilly (37, two examples); Birrens (37); Camelon (37);
 Newstead (37, two examples).
169. SILVIUS of Lezoux. Period: Flavian.
 SILVIO in cursive script (*J.R.S.*, xvii. Pl. ix. No. 70A)—Camelon (37).

(c) *Outside, among the decoration.*

170. ALBUCIUS. *Cf.* No. 11, *supra*.
 [AL]BVCI—Mumrills (37).
171. CINNAMUS of Lezoux and Lubié. Period: Trajan-Antonine.
 CINNAM—Bar Hill (37, two examples); Mumrills (30 and 37).
 CINNAM on large label—Rough Castle (37).
 IMAMNIO—Balmuilly (30 and two examples of 37); Bar Hill (37);
 Cadder (37); Camelon (37); Mumrills (37, three examples); Newstead
 (37, four examples); Traprain Law (37).
 IMAMNIO on small label—Newstead (37).
 MIMAMNIO on small label—Bar Hill (37).
172. CRUCURO of La Graufesenque. Period: Vespasian-Trajan.
 CRVC[CVRO]—Newstead (37).

173. FRONTINUS. Cf. No. 68, *supra*.
 FRONTINI on label—Camelon (29); Newstead (37). The Camelon stamp is on the same vessel as No. 100.
 FRONTINI on label—Camelon (37).
174. GERMANUS of Westerndorf. Period: Late Antonine.
 [F·2VNA]MRAO on label—Newstead (37).
175. NOCTURNUS of Westerndorf. Period: Late Antonine.
 NOCTVRN·F—*Falkirk (37). See Nimmo's *Hist. of Stirlingshire* (ed. 1880), i. 38. Although the stamp is there given as NOCTVRNA, the description of the bowl is too circumstantial to admit of doubt as to the identification, particularly as No. 174 shows that Westerndorf pottery had begun to reach Scotland before the evacuation.

It will be seen that, after allowance has been made for a certain amount of repetition as between undecorated and decorated ware, the foregoing list includes the names of 166 individual potters. Many of these, however, are represented by more than one example of their handiwork. The total number of individual vessels concerned is, in fact, 337, so that there is a fairly wide basis for deductions as to the sources of supply. The main reservoir was obviously Central Gaul, notably Lezoux. That is precisely what might have been expected. Nor is it surprising to find that, before the Romans finally withdrew beyond Cheviot, there had been some infiltration of goods manufactured in places further east, where the industry was of later growth, such as Rheinzabern and Westerndorf. What will seem more remarkable is the extent of the contribution made by Southern Gaul. As it is known that the potteries there were in decay before the second century was very old, this may have chronological implications which bear very directly upon one of the most important questions in the story of Roman Scotland.

That story falls into two parts, the first beginning with the invasion of Agricola in A.D. 80, the second with the building of the Antonine Wall about A.D. 142. It is hardly doubtful that the Antonine occupation lasted for forty or fifty years. As regards the length of the one which preceded it, there is much more room for difference of opinion. Did it end with the recall of Agricola in A.D. 84? Or did it continue after he quitted the island? And, if so, until when? In 1906 it looked as if the evidence from the Bar Hill was to be conclusive in favour of the theory of precipitate abandonment. In 1911, however, a scrutiny of the coins from Newstead seemed to put another complexion on the matter,¹ and in 1918 their testimony was confirmed by a wider survey of the numismatic data from the whole of Scotland.² Finally, in 1921 a re-examination of

¹ *A Roman Frontier Post*, pp. 401 and 415.

² *Proceedings*, vol. III. pp. 256 f.

the structural evidence from Camelon, Ardoch, and Inchtuthil revealed the fact that the Agricolan forts on these sites, so far from being garrisoned for only a year or two like the early fort on the Bar Hill, had been more or less continuously in Roman hands for long enough to admit of two rebuildings. On that occasion I ventured to sum up the position thus: "The probability is that the Romans did not retire behind the Cheviots until the great upheaval whose suppression has left an abiding memorial in the Tyne and Solway Wall."¹ I would add now that in saying this I did not mean to discount the possibility of the trouble having broken out before the end of the reign of Trajan, perhaps in A.D. 115 or even earlier. In any event, the short life of the Bar Hill fort is easily accounted for. Agricola's occupation of the Forth and Clyde isthmus was merely an episode in his advance. It was never meant to be permanent.

Although it was not referred to specifically in formulating the conclusions that have just been summarised, it must not be supposed that the pottery evidence was overlooked. So far as it went, it appeared to be confirmatory: figured Samian of the first or early second century was almost, though not quite, unknown at the forts on the Antonine Wall, whereas at Camelon and Newstead it was relatively abundant. This, however, was a general impression only, and as such it was too like "what the soldier said," to be allowed a place in the argument. The list now printed provides a much more definite picture, and its analysis may be expected to yield results of some moment.

For the purpose of such an analysis the only practicable course is to accept Dr Oswald's dating, provisional as it may occasionally be. I have therefore divided the potters whose wares have been found in Scotland into three groups, according to the period at which the *Index* makes their activity terminate, irrespective of the period at which it may have begun:—

- A. Potters whose activity did not extend beyond the reign of Trajan
—that is, beyond A.D. 117.
- B. Potters whose activity did not extend beyond the reign of Hadrian
—that is, beyond A.D. 138.
- C. Potters whose activity continued after the accession of Antoninus Pius—that is, after A.D. 138.

Potters whose names fall into Group A may, I think, fairly be associated with the Agricolan occupation, and potters whose names fall into Groups B and C with the Antonine advance and the occupation which

¹ *Journ. Roman Studies*, vol. ix, p. 133.

followed it. For the sake of brevity, the first of these classes will be referred to as 'early' and the second as 'late.'

In making this classification I do not forget that "the baggage-train of the army which Lollius Urbicus led across the Scottish frontier, in the beginning of the reign of Pius, must have contained a fair percentage of table ware and kitchen utensils which experts might to-day assign to the period of Hadrian, or even of Trajan."¹ As a matter of fact, the possibility of such 'survivals' has been amply allowed for by reckoning the whole of Group B as late. One or two stray dishes here included in Group A may, indeed, have lived through the vicissitudes of frontier warfare for the twenty-five years that separated the death of Trajan from the invasion of Scotland, *circa* A.D. 142. But against that it must be remembered that not a few of the potters in Groups B and C were already active in Flavian times, so that a certain number of the sherds which I have classed as late may quite conceivably be early. That is undoubtedly the case with No. 80. Its maker, Jullinus of Lezoux, is placed in Group C, because the limits of his activity are 'Flavian-Antonine'; but the platter itself must be early, for reference to *A Roman Frontier Post* will show that it was found sealed in an early pit.

Of the 337 sherds, there are 9 which are of no use for our present purpose, either because the potter cannot yet be approximately dated (Nos. 98 and 155), or because they were found on sites (Traprain Law and Inchgarvie), which are not to be regarded as definitely Roman. The 13 from Birrens may also be left out of account. All of them are late, nor has this fort as yet yielded anything suggestive of a first-century occupation. Ardoch, Cappuck, Cramond, and Inveresk must be set aside for a different reason; all told, their quota is just over a dozen, 5 early and 8 late—obviously too narrow a basis on which to build. The 302 which remain, comprise 85 from the forts on the Antonine Wall, 139 from Newstead, and 78 from Camelon.

Only 10 of the 85 from the Wall forts are early. The other 75 are late, 5 of them belonging to Group B and 70 to Group C. The significance of these figures is decisive. The first occupation of the isthmus was far less prolonged than the second. Some details regarding the individual forts may be added. Four of them—Balmuildy with 19 sherds, Bar Hill with 9, Cadder with 3, and Falkirk with 1—have nothing whatever to show that is early, nothing that falls even into Group B. On the other hand, Castlecary with 14 sherds, supplies 4 early names, (Cadgatis, Calvus of La Graufesenque,² Libertus and L. Terentius

¹ *Proceedings*, vol. lxiii. p. 503.

² In this and the lists that follow, the locality is specified when it is necessary to distinguish between potters of the same name who worked in different centres.

Secundus), Mumrills with 27 supplies 3 (Avitus of Lezoux, Calvinus and Creciro), Old Kilpatrick with 8 supplies 2 (Felicio and Illiomarus), and Rough Castle with 5 supplies 1 (Secundinus of Lezoux). It is worth noting that Mumrills was, so far as we know, much the largest of the forts on the Wall, and that the exceptionally high proportion of early names at Castlecary is in exact accord with the trend of the other pottery evidence from this site.¹

The statistics from the Wall present a marked contrast to those from Newstead. There, the total of 139 is made up of 96 pieces which are late² and 43 which are early. It may be well to give a list of the potters from whose kilns the early vessels came, adding numbers in those cases where a potter is represented by more than one fragment. The names are—Avitus of Lezoux (2), Calvus of La Graufesenque, Chresimus, Coius, Cosius and Rufinus, Cotto, Crispus, Crucuro, Dagomarus, Draucus, Felix, Firmo, Frontinus (2), Q. Jul. Habilis, Jucundus (2), Jullus (3), Macer, Masculus, Memor, Primus of Montans, Rufinus (2), Rufus, Sabinus (2), Secundinus of Lezoux, Secundus of La Graufesenque (2), Severus of La Graufesenque, Silvanus (2), and Vitalis (8). This is surely a formidable list. Moreover, in estimating the weight of its testimony, we have to remember that at Newstead the second-century fort was planted exactly on the spot where its predecessor had stood—an arrangement that was anything but conducive to the preservation of first-century objects. As a matter of fact, the careful record in *A Roman Frontier Post* shows that the great majority of the 43 were recovered from sealed pits or from the early ditch, and that very few of them were surface-finds. If the Antonine occupation lasted for forty or fifty years, as we know that it did, we can hardly allow less than thirty for that which began with Agricola.

Lastly, there is Camelon. Here, the conditions for a fair comparison were more favourable than at Newstead, since the later fort was not actually superimposed upon the earlier, but was immediately adjacent. There was thus less risk of first-century fragments being trampled out of existence. The fruits of this happy chance are apparent in the outcome of the analysis. Of the 78 sherds from the site, not more than 43 are late, 5 belonging to Group B and 38 to Group C. On the other hand, no fewer than 35 are early, the potters concerned being G. Albinus, Cadgatis, Calvus of La Graufesenque (3), Chresimus, Cosius and Rufinus (2), Ericus, Felix (2), Firmo, Firmus of Lezoux, Frontinus (2), Jucundus, Logirinus (2), Macer, Memor, Patricius of La Graufesenque

¹ I hope to deal more fully with this peculiar feature of Castlecary in the second edition of my *Roman Wall in Scotland*.

² Only 4 of these are in Group B, as against 92 in Group C.

Peregrinus (2), Primus of Montans, Rufinus, Scipius, Secundus of La Graufesenque, Secundus of Lezoux, Silvius of Lezoux, Surlus (3), Verecundus of La Graufesenque, S. Verius, and Vinus. These figures are very striking. They speak for themselves so effectively that no comment is required, unless it be to say that they came upon myself as a genuine surprise. I had not looked for anything quite so convincing.

INDEX

	PAGE		PAGE
Aberchirder, Arms of,	429 f.	Animal Remains from the Sculptor's Cave,	
— Estates of,	429	Covesea,	207
— Sydl de,	429	— — from Skara Brae Earth-house,	74
Aberdeenshire: <i>see</i> Benachie; Braemar;		Anniversary Meeting, 1030,	1
Corgarff; Forvie, Sands of; Kin-		Antlers, from Skara Brae,	38, 43, 59
craigie, Mill of; Strichen.		— Out, from Foshigarry,	302, 303, 309, 311, 338
Abernethy, Arms of, at Edzell Castle,	137	— Red-deer, worked, from Sculptor's	
Accounts for the Reconstruction of Brae-		Cave, Covesea,	188
mar and Corgarff Castles, 1746,	379	Appietown, Sandwick, Orkney, Chert	
Adam, John,	379 f.	Arrow-head from,	86
Adze, Stone, from Rodil, Harris,		— — — Flint Arrow-heads and Imple-	
(purchase),	175	ments from,	79, 84
Agnew, Rev. Hugh M., elected,	298	Ardkeilling, Strypes, Morayshire, Carved	
Alkerness, Orkney, Pigment from Broch of,	110	Stone Balls from,	107
Airdrie, Lanarkshire, Hand-made Iron		Ardrossigille, The Fivepennyland of,	250
Nails from,	15	Argyll: <i>see</i> Ballachulish; Ballymeanoch;	
Air-house, Channelkirk, Berwickshire,		Balulvie, Islay; Banaltrun Mhor,	
Flint Implements and Jet Armlet		Kildalton and Oa; Carnassarie, Kil-	
from,	174	martin; Dunadd; Dun Macsamhainn,	
Airrieoulland Crannog, Wigtownshire,		Kilmartin; Dunollie, Oban; Gruinart,	
Burnished Hematite from,	99, 108	Islay; Killehoman, Islay; Knapdale;	
Airs and Marches in An Old Scottish		Largie, Nether, Poltalloch; Machri-	
Violin Tutor,	401	hanish; Poltalloch; Ri Cruin; Skip-	
Album Amicorum, Stammbuch, or Gesellen-		ness; Torbhlaren Hill, Kilmichael-	
buch,	154	Glassary.	
Aldbar Castle, Angus, Seventeenth-		Arithmetica, Sculptured figure of, at Edzell	
Century Purse from,	175	Castle,	146
Allan, Mrs H. M., elected,	2	Arkland, Kirkpatrick-Durham, Kirkend-	
Allison, Alexander Y., presented a Food-		bright, Perforated Stone from,	12
vessel,	258	Armlets:—	
Alness, Ross-shire, Part of a Bronze Knife		Bronze, Massive, from Culbin Sands,	
from,	10	Morayshire, (purchase),	17
Altgar, The Fivepennyland of,	250	— Penannular, from The Rink, Tweed	
Amber Settings in Bone Pin from the		Bridge,	417
Caird's Cave, Rosemarkie,	412	— — from the Sculptor's Cave, Cove-	
<i>See also</i> Benda.		sea,	182, 191, 208
An Old Scottish Violin Tutor,	308	Jet, Fragment of, from Airhouse,	
Anchor, Stone, from Dun Thomaidh,	321	Channelkirk, (donation)	174
Angus: <i>see</i> Aldbar Castle; Edzell Castle;		— from Denholm Hill, Roxburgh,	
Farnell; Fletcherfield, Forfar; Knoe-		(purchase)	16
kenney, Glamis; Pitkenney, Aber-		— from Drumelzier Cairn,	365, 369, 371
lemno.		— — — Donation of,	383

	PAGE		PAGE
Armourers and Braziers of London, Mazer of the,	227	Axes (<i>contd.</i>):—	
Arms and Armour, Flint-lock Spring Gun, (purchase),	384	Chert, from Stenness, Orkney,	86
Arms, Coats of: <i>see</i> Heraldry.		Copper, from Glenelg, (purchase)	413
Arran, Skipness and Knapdale, Sir John Menteith, Lord of,	241	Flint, from Balulve, Islay, (donation)	9
Arrow-heads:—		— from Orkney, List of,	84
Chert, from Appietown, Sandwick, Orkney,	85	— „ Skara Brae, Orkney,	104
Flint:—		Stone:—	
from Airhouse, Channelkirk, (donation)	174	from Carsie, Blairgowrie, (purchase)	259
„ Bookan, Orkney, (donation)	11	„ Farnell, Angus, (donation)	15
„ Carsie, Blairgowrie, (purchase)	259	„ Foshigarra,	104, 313, 323
„ Culbin Sands, (purchase)	259	„ Lochlee Crannog, Ayrshire,	104
„ Culshan, Kirkpatrick-Durham, (donation)	12	„ The Rink, Tweed Bridge,	416
„ Findhorn, (purchase)	259	„ Skara Brae,	37, 60, 71, 104
„ Hinderfjold Hill, Harray, Orkney, (purchase)	20	„ Tota Dunnag, North Uist,	104
„ Cist in Kindrochat Cairn,	263	„ Vitified Fort at Dunagoil,	104
„ Milton Brodie, Alves, (purchase)	259	„ Westness, Rousay, Orkney, (donation)	14
„ Orkney,	78 f.	Ayrshire, Cinerary Urn sealed with clay found in,	265
„ Paimpol, France, (donation)	256	<i>See also</i> Buston Crannog; Doon, Loch; Lochlee; Ochiltree; Stevenston.	
„ the Rink Farm, Tweed Bridge,	416	Bac Mhic Connain, North Uist, Pigments from Earth-house at,	110
„ Sands of Forvie, (purchase)	259	Bain, Quoyle, Orkney, Flint Axe from,	84
Calcined, from Strathardle, (purchase)	259	Ballachulish, Argyll, Episcopal Communion Tokens of,	12
— from Chambered Cairn, Unstan, Orkney,	62	Balls, Stone:—	
Ground, from Stenness, Orkney,	79	from Foshigarra,	325
Arrow-heads and Implements, Flint:—		found near the Rink Fort, Tweed Bridge,	417
from Appietown, Sandwick, Orkney,	79	Carved, from Orkney and elsewhere,	97, 107
„ Birsay,	79	— „ St Thomas's Kirk, Orkney, (purchase)	16, 96, 108
„ Newlands, Garvald, East Lothian, (purchase)	16	— Period of,	107
Arthur, Dr Alexander T., Death of,	4	Grooved, from Skara Brae,	37
Arthur's Seat, Edinburgh, Terraces at,	391 f., 394, 397	Spiked, „ do.,	37, 63
Arts, The Liberal, Sculptured Figures of, at Edzell Castle,	145, 158	Ballymeanoch, Argyll, Bell Cairn at,	278
Askew, Gilbert H., elected,	408	Balulve, Kilarrow and Kilmeny, Islay, Argyll, Flint Axe from,	9
Auchencass Castle, Dumfriesshire, An Underground Passage at,	294	Banaltum Mhor, Islay, Argyll, Flint Scrapers from,	9
Awl, Bone, from Skara Brae,	42, 52, 64	Banffshire: <i>see</i> Aberchirder; Cairnfield, Enzie.	
Awls or Borers, Bone, from Foshigarra,	334	Bannatyne or Bate Mazer, and its Carved Bone Cover,	217
Axe-hammer, Stone, from Barlass, Fife,	12	— Robert and Ninian, of Kames, former owners of the Bannatyne Mazer,	219, 221, 223 f., 225
— from Orkney,	95	Banner, The Edinburgh Brushmakers, (donation),	383
Axe-heads carved on Slabs of Cist in North Cairn, Nether Largie,	271	— The Spalding, (bequest)	382
— — at Ri Cruin, Argyll,	274	Barclay, Rev. William, elected,	174
Axes:—		Bar-holes in Brochs and Earth-houses,	112
Bronze, socketed, from Craighead, Newport, Fife, (donation)	257		

	PAGE		PAGE
Barlass, Newport, Fife, Stone Axe-hammer from,	12	Beveridge, George, presented Fragment of Plate of Bone Comb,	256
Basin, Whalebone, from Skara Brae,	37	— Rev. John, elected,	2
Bath-house at Edzell Castle,	167	Biggs, Hugh Miller, elected,	408
Baton, Edinburgh Special Constable's, (purchase)	176	Birch, Captain,	380
— Wooden, G. R./111, (purchase)	384	Birkle Hills, Keiss, Caithness, Grooved Stone and other Objects from,	110
Baxter, William, elected,	2	Birsay, Orkney, Flint Arrow-heads and Implements from,	79
Beads:—		— — Stone Hammer from,	95
from Skara Brae,	60 f.	Bishop Loch, Lanarkshire, Pigments from Crannog in,	110
Amber, from the Sculptor's Cave, Cove- sea,	198	Black Isle, Ross-shire, Flint Implements from, (presented)	411
Bone, from do.,	198	Blade, Flint, from Crichton House Farm, Ford, (purchase)	175
— „ Skara Brae,	109	Blanket from Dunollie, (donation)	383
— scarcity of, in Brochs,	109	— Woollen, (donation)	10
Bronze Wire, from Sculptor's Cave, Cove- sea,	193	Bloody Quoy, Deerness, Orkney, Stone Hammer from,	95
Glass:—		Blows Moss, South Ronaldsay, Flint Dagger from,	82
from Dunadd, (donation)	412	Bockan, Sandwick, Orkney, Flint and Stone Implements from,	11, 91
„ Dykeside, Harray, Orkney,	15	Bolt and Key, Bronze, of a Barrel Lock, from the Sculptor's Cave, Cove- sea,	192
„ Loch Gruinart, Islay, (donation)	9	Bone:—	
„ Sculptor's Cave, Cove- sea,	199	Calcined, from Cist at Lintlaw,	360
Jet:—		Cut and shaped pieces of, from Dun Thomaidh,	321
from Cairns on Knock Hills, Edger- ston, Roxburghshire, (pre- sented)	13	— — from Foshigarry, 302, 303, 314, 315, 337-9	
„ Knockenny Cist, Glamis,	419	Hoe from Saverrough, Birsay, Orkney,	106
„ Sculptor's Cave, Cove- sea,	201	Hoes from Skara Brae, Orkney,	106
„ Sorrowlessfield, Earliston, (donation)	10	Implements from Foshigarry,	331, 330, 353
Stone, from Bockan, Orkney, (donation)	12	— from Skara Brae,	64-5
Beaver's Tooth, from the Sculptor's Cave, Cove- sea,	198	Objects of, from the Caird's Cave, Rose- markie, (presented)	411
Beawick, Sandsting, Shetland, Brass Candlestick from,	16	Perforated, from Skara Brae,	110
Bede, The Venerable, Mazer of,	226, 227	Pieces of, with Dot-and-Circle Design, from Foshigarry,	313
Bell Cairn at Ballymeanoch, Argyll,	278	Shovels (Scapulae), from Broch of Burray, Orkney,	107
Benachie Club, Garloch Friendly Society, Button of,	256	— — from Rennibister, Orkney,	107
Benton, Miss Sylvia, on the Excavation of the Sculptor's Cave, Cove- sea, Moray- shire,	177	— — „ Skara Brae,	106
Beosetter, Bressay, Shetland, Fragments of Pottery Vessel from,	10	Thin Blades from Road Broch, Keiss, Caithness,	109
Berners, Sound of Harris, Bone Needle and Plate of Jasper from,	176	— — from Skara Brae,	109
Berwickshire: see Airthouse, Channelkirk; Harelawside; Hume; Lintlaw; Park, Earliston; Sorrowlessfield, Earliston.		Tool, Blunt-nosed, from Skara Brae, 47, 52, 64	
Beveridge, The late Erskine, LL.D., and J. Graham Callander, on the Excava- tion of an Earth-house at Foshigarry, and a Fort, Dun Thomaidh, in North Uist,	299	See also Awls; Beads; Borers; Chisels; Combs; Dice; Fish-spear; Haft; Handles; Harpoon; Needle, Figa- rine; Needles; Picks; Pins; Prickers; Rings; Scoops; Sheath; Slice; Spoon; Weaving Tablets.	

	PAGE		PAGE
Bone, Cetacean:—		Bronze Age, Gold and Ring-money, from	
Coven of the Bannatyne Mazer made of, 233 f.		the Sculptor's Cave, Covesea,	181
Cups from Foshigarry,	310, 342	<i>See also</i> Armlets; Beads; Bolt and	
Cylindrical Objects, Grooved, from		Key; Brooch; Grattoir; Hook-like Ob-	
Foshigarry,	332, 352	ject; Knives; Medal; Nail-cleaners;	
Dorsal Plate, Dressed, from Foshigarry,	342	Needle; Pendants; Pincers; Pins;	
— from Skara Brae and Hebridean Earth-houses,	110	Plate; Rings; Spear-butt; Sword	
— Perforated, from Foshigarry, 332, 353		Guard; Toggle; Toilet Instruments;	
Fan-shaped Object from Foshigarry,	310, 342	Tweezers,	
Handle or Haft found near Cubbie Roo's		Brooch, Bronze, Penannular, from the	
Castle, Orkney,	11	Sculptor's Cave, Covesea,	197
Implements of, from Foshigarry,	341-2	— Swastika, from Denholm Hill,	
Mortars from Skara Brae, and Brochs,	110	Roxburgh, (purchase)	10
Shaped pieces of, from Foshigarry,	302, 303, 306, 308, 310, 312, 324, 339-42, 351	— Gold, Luckenbooth, (purchase)	250
Slabs, V-cut, from Foshigarry,	303, 306, 308 f., 312, 313, 351	Brook, William, on the Boss of the Bannatyne Mazer,	252
<i>See also</i> Awls; Borers; Combs; Disc;		Browne, The Right Rev. Bishop G. F.,	
Hammers; Handle; Pin-heads; Spear-		Death of,	3
heads; Whorls,		Brushmakers, Edinburgh, Banner of,	383
Bonnar, James, Death of,	4	Buckquoy, Birsay, Orkney, Keel (Ruddle)	
Bookan, Sandwick, Orkney, Flint, Chert,		from,	15
and Stone Implements, etc., at,	11, 12, 79, 91, 99	Building, Underground, at Midhouse,	
— — — Steatite Urn from,	101	Orkney,	357
Books, Donations and Purchases of,	20, 176, 200, 208, 384, 412, 413	Bulla of Pope Innocent III., (purchase)	16
Borers:—		Bulloch, Dr J. Malcolm, on the Recon-	
Bone, from Foshigarry,	334, 353	struction of Braemar and Corgarff	
Cetacean Bone, from Foshigarry,	334	Castles, 1746,	379
Flint, from Bookan, Orkney, (donation)	11	Burgkmair, Hans, of Augsburg,	153
— „ Carsle, Blairgowrie, (pur-		Burials, Intrusive, at Skara Brae,	58
chase)	259	Burray, Orkney, Bone Shovel from Broch	
— „ Orichton House Farm, Ford,		of,	107
(purchase)	175	Boston Crannog, Ayrshire, Stone Mould	
or Pins, Bone, from Skara Brae,	29, 30, 37, 43, 52, 64	from,	411
Bowl, The Shirley,	226	Bute, Marquis of, owner of the Bannatyne	
Bowls, Silver-beaded, from Traprain Law,	388	Mazer,	220
Box, Carved: <i>see</i> Wood,		— Mazer, The Bannatyne or, and its	
Bracelets: <i>see</i> Armlets,		Carved Bone Cover,	217
Braemar and Corgarff Castles, 1746, The		<i>See also</i> Dunagoil,	
Reconstruction of,	379	Buttons:—	
Brass, Objects of: <i>see</i> Candlestick; Seal,		of the Culloden Volunteers, (donation)	258
Broch at Dun Troddan, Inverness-shire,	112	Copper, of the Highland Roads and	
— „ Harray, Orkney,	114	Bridges Commission, (donation)	10
— „ Kettleburn, Caithness,	114	— gilt, of Benachie Club, Garioch	
— „ Westness, Rousay, Orkney,	112	Friendly Society, (donation)	256
— „ Yarlshof, Shetland,	112	Jet, from Cairns on Knock Hills, Edger-	
Bronze Age Cemetery, near Cowdenbeath,		ston, Roxburghshire,	13
Fife,	201	Lead, found at St Boswells, (purchase)	384
— — Relics from the Sculptor's Cave,			
Covesea,	181-91	Caird's Cave: <i>see</i> Rosemarkie,	
		Cairnamounth Pass,	115
		Cairnfield, Enzie, Banffshire, Wooden	
		Quaich from,	175

	PAGE		PAGE
Cairns:—		Carsphairn, Kirkcudbright, Perforated	
at Carnassarie, Kilmartin,	275	Stone from,	12
„ Drumelzier, Peeblesshire, Excavation		Carswell, Ronald, elected,	382
of,	363	Cartonie Wood: <i>see</i> Edderton.	
„ Dun Macsamhainn, Kilmartin, Argyll, .	275	Castle, Auchencass, Dumfriesshire, An	
„ Nether Largie, Poltalloch,	269	Underground Passage at,	294
„ Poltalloch, Argyll, Further Excava-		— Edzell,	115
tions of,	269	Causeway at Dun Thomaidh,	317
and Cist at Carnach, Nairn,	421	Cave, Caird's, Rosemarkie, Collection from,	
Bell, at Ballymeanoch, Argyll,	278	(presented)	411
Chambered, Long, at Kindrochat, near		— The Sculptor's, Covesea, Morayshire,	
Comrie, Perthshire,	281	Excavation of,	177
Calithness: <i>see</i> Birkle Hills, Keiss; Keiss;		Celts: <i>see</i> Axes.	
Kettleburn, Broch of; Road Broch,		Cemetery, Bronze Age, near Cowdenbeath,	
Keiss,		Pife,	261
Cake-toaster, Iron, (donation)	9	Cetacean Bone: <i>see</i> Bone.	
Calder, Professor William M., elected, . . .	8	Chain, Bronze, Piece of, from the Sculptor's	
Caledonian Insurance Company, Fire-plate		Cave, Covesea,	191
of,	412	Chalmers-Jervise Prize, 1930,	7
Callander, J. Graham, on (1) Certain Pre-		— Essay for 1930, The Romano	
historic Relics from Orkney, and (2)		Terraces: Their Origin and Purpose, .	388
Skara Brae: Its Culture and its		Chert, black and white, found near Strom-	
Period,	78	ness,	86
— The late Erskine Beveridge, LL.D.,		— Flakes of, from Drumelzier Cairn, . . .	366
and, on Excavation of an Earth-house		— Implements from Skara Brae, Orkney, .	85
at Foshigarry, and a Fort, Dun		— Pigmy Implements of, manufacture of,	
Thomaidh, in North Uist,	299	on the Rink Farm, Tweed Bridge, . . .	415
— presented a Bone Pin,	10	<i>See also</i> Axes, Arrow-heads, Scrapers.	
Cameron, Archibald, elected,	256	Childe, Professor V. Gordon, elected to	
— Rev. John K., elected,	2	Council,	2
Campbell, Dame Catherine, Countess of		— on Final Report on the Operations	
Crawford,	133	at Skara Brae,	27
— Sir Duncan,	242	— on the Chambered Long Cairn at	
— Mrs J. C., elected,	174	Kindrochat, near Comrie, Perthshire, .	281
— Lady Susanna Crawford or, of Lou-		Chisels, Bone:—	
down,	242	from Dun Thomaidh,	321
Candlestick, Brass, from Beawick, Sbet-		„ Foshigarry,	339
land, (purchase)	16	„ Skara Brae,	65
Canterbury, Mazer Cup of Saint Thomas of,		Cists:—	
and of Christchurch Priory,	226	at Fletcherfield, Forfar,	418
Cantray, Croy, Inverness-shire, Sundial		„ Knockenny, Glamis,	419
from, (donation)	383	„ Lintlaw,	350 <i>f.</i>
Cardew, Captain,	380	„ Nether Largie, Poltalloch,	270
Cargill, Sir John T., Bart., elected, . . .	174	„ Skara Brae,	31, 58
Caritas, Sculptured figure of, at Edzell		in Bell Cairn, Ballymeanoch, Argyll, .	279
Castle,	148, 160	„ Cairn at Carnach, Nairn,	421
Carnach, Nairn, Cist found at,	421	„ Carnassarie Cairn, Kilmartin, . . .	277
Report on Skeletal Remains from do., .	422	„ Drumelzier Cairn,	363, 365 <i>f.</i>
Carnassarie, Kilmartin, Argyll, Excavation		„ Kindrochat Cairn,	280, 290
of Cairn at,	275	— Short, in Angus and Nairnshire, . . .	418
— Standing Stones near,	275	— with grooved slabs at the Lady's Seat, .	274
Carriek, Edward Bruce, Earl of,	249	Clay, Objects of: <i>see</i> Crucible; Whorl.	
Carsie, Blairgowrie, Perthshire, Flint		Clestraln, Stronsay, Orkney, Steatite Urn	
Implements, etc., from,	259	from,	102

	PAGE		PAGE
Club, Stone, from Skara Brae,	63	Cowdenbeith, Fife, A Bronze Age Cemetery	
Clydal Church, Pembrokeshire, Latin In-		near,	261
scription in,	386	Cowe, William, elected,	174
Coins, Barbarian, from the Sculptor's Cave,		Craighead Farm, Newport, Fife, Bronze	
Covesea,	200, 213	socketed Axe from,	257
— Roman, from do., do.,	200	Craigshinnie, Kells, Whorl from,	12
Combs:—		Craunog on Eilean Tigh na Slige, Loch	
Bone, Fragment of, from the Sculptor's		Treig, Inverness-shire,	14
Cave, Covesea,	198	Craw, J. Hewat, on Further Excavations	
— — from Vallay, (donation)	256	of Cairns at Poltalloch, Argyll,	299
— with Dot-and-Circle Ornamentation,		— — on An Underground Building at	
from Foshigarry,	310, 312, 341	Midhouse, Orkney; Two Urns found	
Weaving, of Cetacean Bone, from do.,		at Lintlaw, Berwickshire; and the	
322, 310, 313, 328, 352		Excavation of a Cairn at Drumelzier,	
Conacher, Hugh M., elected,	408	Peeblesshire,	357
Constans I., Coin of, from the Sculptor's		Crawford, Arms of, on Bannatyne Mazer,	
Cave, Covesea,	213	222 f., 238, 242	
Constantine I., Coin of Period of, do.,	213	— Dame Catherine Campbell, Countess	
Constantine II., Coin of, do.,	213	of,	133
Constantius Gallus, Coin of, do.,	212	— — Arms of,	169
Constantius II., Coins of, do.,	212, 213	— David Lindsay, Ninth Earl of,	119, 123
Conyngham, Sir James of,	250	— — Arms of,	169
Cooking-pot, Bronze Age, from the		— Lady Susanna, of Loudoun: see Camp-	
Sculptor's Cave, Covesea,	180	bell.	
Copper, Objects of: see Axe; Buttons.		— Lord, of Loudoun, and Heritable Sheriff	
Cordiners, Incorporation of, Easter Ports-		of Ayr, Arms of,	242
burgh, Edinburgh, Seal of,	384	— Sir Reginald,	242
Corelli, Minnets by, in An Old Scottish		Cresset from Hume, Berwickshire, (dona-	
Viola Tutor,	401, 403	tion)	14
Corgarrif, The Reconstruction of the Castles		Crichton, George, elected,	256
of Braemar and, 1746,	379	— Lionel A., on the Provenance of the	
Corrie, John M., presented a Polisher from		Bannatyne Mazer,	251
Inveresk and Pottery fragments from		Crichton House Farm, Ford, Midlothian,	
Shetland,	10	Flint and Stone Implements from,	
Corsewall Castle, Wigtownshire, Gold		(purchase),	175
Locket and other Objects found at,	18, 20	Crosses and Cross-slabs:—	
Coulton, Dr G. G., appointed Rhind Lec-		Cross from Kilchoman, Islay, (pur-	
turer for 1931,	7	chase)	19
Council, Report by, 1929-30,	4	— Wooden, found in Graves at Skuö,	
Counters, from the Sculptor's Cave, Covesea,	201	Faeroe Islands,	374
Covenanters' Flag from Ochiltree, (pre-		Cross-slabs from Greenland,	376
sented)	13	— at Herjolfsness, Greenland,	373
Covesea, Morayshire, The Excavation of		— Note on Early, from the Faeroe	
the Sculptor's Cave,	177	Islands,	373
The Stratification,	180	Crosskirk, Westray, Orkney, Steatite Urn	
Hearth,	181	from,	101
Bronze Age,	181	Crucibles from Brochs and Earth-houses,	114
Roman Period,	191, 204	— „ Foshigarry,	314, 342, 349
Conclusions,	203	Cuarfaybeg, The Pennyland of,	250
Human Bones,	206	Cullin Sands, Morayshire, Flint Arrow-	
Report on the Animal Bones,	207	heads and Stone Whorl from,	259
— — two Specimens of Bronze,	208	— — Hematite, burnished, from,	99
Coins,	209	— — Massive Bronze Armlet from,	17
Objects from, (purchase)	384	Culloden Volunteers, Buttons of,	258

	PAGE		PAGE
Culshan, Kirkpatrick-Durham, Stewartry of Kirkcudbright, Flint Arrow-head from,	12	Deer-horn (<i>contd.</i>):—	
Cunningham, James of,	249	Piece of, with Dot-and-Circle Designs, from Foshigarry,	313
Cunnington, Mrs M. E., elected an Honorary Fellow,	174	Sockets for Stone Axes from Denmark and France,	104
Cup-marks on Rock at Nether Largie, Poltalloch,	275	— — from Skara Brae, Orkney,	105
— on Slabs of Cist in North Cairn, Nether Largie, Poltalloch,	271	<i>See also</i> Antlers; Hafts; Handles; Picks; Tine.	
Cups, Cetacean Bone, from Foshigarry,	310, 342, 354	Denholm Hill, Roxburgh, Bronze Swastika Brooch and other Relics from,	16
Curle, Alexander O., Some Further Notes on the Traprain Law Treasure by,	385	De Quiney, Roger de, Counterseal of,	231
— James, LL.D., presented a Fire-plate,	412	Dialectica, Sculptured figure of, at Edzell Castle,	146, 160
Curling Society, Duddingston, Silver Medal of,	14	Dice, Bone, from Foshigarry,	313, 340
Currie, James, Death of,	4	Dick, Rev. James, Death of,	4
Cuthbert, Lt.-Col. T. W., presented part of a socketed Bronze Knife,	10	— Mrs. presented a Cake-toaster,	9
— Miss, presented a Cresset,	14	Dickson, Nicol, presented Fragments of Flint and Stone Hammers,	11
Cutlass from Kirkmahoe, (donation)	14	Dingwall, Ross-shire, Flint Implements from, (presented)	411
		Disks, Cetacean Bone, from Foshigarry,	342, 354
Dagger, Flint, from Blows Moss, South Ronaldsay,	82	— Lead, pierced, from the Sculptor's Cave, Coveasa,	201
Dales, Mrs. and J. D. Allan Gray, present Stone Axe-hammer,	12	— Pottery, from Foshigarry,	315
Dalgetty, Dr Arthur B., elected,	408	— Stone, „ do.,	302, 310, 324
Dalhousie, Eighth Earl of,	119	Distaff, Wooden, from Lewis, (donation)	10
Dalveen Pass, Dumfriesshire, Whorl from,	12	Dobie, Colonel William F., Death of,	4
Dam, Flax, at Drumelzier,	371	Dollar Park, Falkirk, Potters' Stamps in Museum in,	433
Davidson, Miss E. M., of Cantray, presented a Sundial,	383	Donald, John, elected,	2
— James, Death of,	4	Donaldson, Henry T., Death of,	4
— Major James M., elected,	2	Doon, Loch, Ayrshire, Whorl from,	12
Davies, Mr O., Report on Bronze from the Sculptor's Cave, Coveasa, by,	208	Douglas, Arms of, on Bannatyne Mazer,	232 f., 238 f.
Deeds and Documents:—		— Sir James, The Good,	239 f., 249, 250
Charter of Lands of Attygar, Ardrossigille, and Cuarfaybeg,	250	— William, "Le Hardi,"	240
— Kilmacolmoe, by Gilbert, son of Gilbert,	249	Dovecot at Mains of Edzell,	172
Deed of Trust regarding the Wat o' Harden Spurs and Horn,	408	Dow, Daniel, Fiddler,	309
Deer-horn:—		Drinking-horn, Norse, Heraldic embellishments on,	232, 237
Cut and worked pieces of, from Foshigarry,	315, 329	Drumelzier, Peeblesshire, Mounds, Flax Dam and Picker's Well at,	371-2
Hoes,	106	Duddingston Curling Society, Medal of,	14
Objects of, from the Caird's Cave, Rosemarkie, (presented)	411	Dumfriesshire: <i>see</i> Auchencass Castle; Dalveen Pass; Evertown, Loophill, Canonbie; Kirkmahoe.	
Perforated Segments of, from Foshigarry,	333, 339, 353	Dunadd, Argyll, Carved Stone Ball from Fort of,	107
		— — Iron Staple and Glass Bead from,	412
		Dunagoll, Bute, Stone Axes from Vitrified Fort at,	104
		Dunbar, Mrs Kenneth J. Duff, elected,	8
		Duncan, John J., elected,	2

	PAGE		PAGE
Dun Macsainhalun, Kilmartin, Argyll, Cairns on and near,	275	Edzell Castle, Angus (<i>contd.</i>):—	
Dunollie, Ohan, Argyll, Blanket Spun and Woven at,	383	Carved Fragments,	169
— Flooring Board from,	412	The Precincts of the Castle,	171
Dunsyre, Lanarkshire, Terraces at,	391 f., 394	The Dovecot,	172
Dun Thomaidh, North Uist, Inverness- shire, Excavation of,	290, 317	— Mains of, Angus, Dovecot at,	172
Dun Troddan, Glenelg, Inverness-shire, Broch of,	112	Edlgy, Stone, of Knight, at Inchmahome, Lake of Monteith,	242
Dykeside, Harray, Orkney, Glass Bead from,	15	Egilsay, Orkney, Stone Hammer from,	14, 95
Earth-house at Foshigarry, North Uist, Excavation of,	299	Eilean Tigh na Slige, Idir Loch, Loch Treig, Inverness-shire, Crannog on,	14
— at Midhouse, Orkney,	357	Elgin Cathedral, Note on the Tombstone of Robert Innes, 19th of that ilk, at,	427
East Lothian: <i>see</i> Gullane; Newlands, Garvald; Traprain Law.		Elphinstone, Elizabeth: <i>see</i> Innes.	
Ebony, Edinburgh Special Constable's Baton of,	176	Epworth Church, Lincolnshire, Mazer of,	228
Eday, Orkney, Flint Axe from,	84	Evertown, Loophill, Canonbie, Dumfries- shire, Stone Mould from,	410
Edderton, Ross-shire, Food-vessel from Cartomle Wood,	258	Eyle, Orkney, Flint Scraper and Flake found near flexed skeleton at,	9
Edinburgh:—		Excavations:—	
Arthur's Seat, Terraces at,	391 f., 394, 397	1929-30,	6
Brushmakers, Banner of the,	383	Cairn at Drumelzier, Peeblesshire,	363
Canongate High School, Silver Medal of,	13	— at Poltalloch, Argyll,	299
Corstorphine, Food-vessel from Cist at North Gyle,	238	Chambered Long Cairn at Kindrochat, near Comrie,	281
Holyrood, Canons of, Lands of Romanno held by,	397	Covesea, Morayshire, The Sculptor's Cave,	177
Parliament House Friendly Society, Snuff-mull of,	175	Earth-house at Foshigarry, and a Fort, Dun Thomaidh, in North Uist,	290
Portsburgh, Easter, Seal of the Incorporation of Cordiners,	384	— at Midhouse, Orkney,	357
Special Constable's Baton,	176	Lintlaw, Berwickshire,	359
Wood Panel, Carved, bought in,	9	Skara Brae, Orkney,	27
Edwards, Arthur J. H., on Short Cists in Angus and Nairnshire,	418	Fabricator, Flint, ground from Chambered Cairn, Unstan, Orkney,	82
Edzell, Sir David Lindsay, Lord,	124	Faeroe Islands, Note on Early Cross-slabs from the,	573
Edzell Castle, Angus:—		Falkirk, Stirlingshire, Potters' Stamps in the Dollar Park Museum,	433
Historical Introduction,	115	Farmer, Dr Henry G., on An Old Scottish Violin Tutor,	398
The Motte,	119	Farnell, Angus, Stone Axe from,	15
The Later Castle,	120	Farquharson, Catherine, of Invercauld,	380
The Tower House,	122	— James, of Braemar Castle,	380
The Quadrangle,	130	Fechtenburg, Bernard,	134, 158
The Garden,	134	Fellows, Honorary, Election of, in 1931,	174
Sculptures on E. side, from N.: the Planetary Deities,	140	Felton, Minuet by, in An Old Scottish Violin Tutor,	401
The Significance of the Sculptures and their <i>Provenance</i> ,	151	Ferguson, Harry Scott, elected,	2
The Summer-House and the Bath- House,	164	Fern, George,	379 f.
		Fiddlers, Scottish, Names of famous,	398 f.
		Fides, Sculptured figure of, at Edzell Castle, 150, 160	

	PAGE
Fife: <i>see</i> Barlass, Newport; Cowdenbeath; Crnighead Farm, Newport; Tents Muir.	
Files, Stone, from the Sculptor's Cave, Covesea,	201
Final Report on the Operations at Skara Brae,	27
Findhorn, Morayshire, Flint Arrow-head and Knife from,	259
Findlay, Sir John R., Death of,	4, 5
Fire-plate of the Caledonian Insurance Company, (donation)	412
Fish-spear, Harpoon or, Bone, from Foshigarry,	333-4
FitzGilbert Family in Bute,	221
— Sir David FitzWalter, de Hamilton,	243
— — — — Arms of,	232 <i>f.</i> , 238, 243
— — — — Seal of,	243
— or Gilbertson, John, Keeper of Rothesay Castle,	244 <i>f.</i>
Flagon, Silver, with Scriptural Scenes, from Traprain Law,	387
Flags: <i>see</i> Banner.	
Flakes, Chert, from Drumelzier Cairn,	303
— Flint, from Drumelzier Cairn,	303
— — — — Evie, Orkney,	9
— — — — Skara Brae,	52, 65
Flask, Silver, Inscribed, from Traprain Law, Inscription on,	386
Flaws, James, presented a Handle of Cetacean Bone,	11
Flax Dam at Drumelzier,	371
Fleming, Rev. D. W. B., Death of,	4
— Sir Malcolm, Captain of Dumbarton Castle,	247
Fletcherfield, Forfar, Angus, Cist and Beaker from,	418
Flint:—	
Dagger, from Blows Moss, South Ronaldsay,	82
Flake, Calcined, from Drumelzier Cairn,	370
Flaked, from Dun Thomaidh,	321
Fragments of, from Carnassarie Cairn,	278
— from Foshigarry,	325
— „ Cist at Lintlaw,	300
Implements of:—	
from Airhouse, Channelkirk, (donation)	174
„ Bookan, Orkney,	11
„ Dingwall and the Black Isle, (donation)	411
„ Newlands, Garvald, East Lothian,	16
„ Park, Earliston, (donation)	10
„ Upper Brough, Harray, Orkney,	84

	PAGE
Flint, Implements of (<i>contd.</i>):—	
from Upper Linnabreck, Birsay, Orkney,	84
„ Cairns on Knock Hills, Edgerston, Roxburghshire,	13
Ground, List of, from Orkney,	84
Pigmy, found at Lindean,	417
— Tardenoisian, from Tents Muir, (purchase),	259
— and other Implements, Workshop for Manufacture of, on the Rink Farm, Tweed Bridge,	415
Pointed, and End Scraper, Combined, from Bookan, Orkney,	11, 12
Sub-triangular, from Carsie, Blairgowrie,	259
The John Smith Collection of, (donation) Worked, from Carsie, Blairgowrie, (purchase)	258
<i>See also</i> Arrow-heads; Axe; Blade; Borers; Flake; Hammer; Knives; Saws; Scrapers; Spear-heads.	
Flint-lock Spring Gun, (purchase)	384
Flooring Board from Dunollie House, (donation)	412
Folsetter, Birsay, Orkney, Flint Axe from,	84
Forbes, Arms of, at Edzell Castle,	137
— George,	379
— Dame Isabel,	138
Fordyce, Dr William, elected,	174
Forsyth, Hugh A., Death of,	4
Fort, Dun Thomaidh, North Uist, Excavation of,	317
Fortalice at Walkerburn,	307
Fortitudo, Sculptured figure of, at Edzell Castle,	150, 161
Fortis and Terraces, Connection of,	395
Fortune, John R., presented Flint Implements and Fragments of Jet Armlet from Airhouse,	174
Forvie, Sands of, Aberdeenshire, Flint Arrow-head from,	250
Foshigarry, North Uist, Inverness-shire, Excavation of an Earth-house at,	299
Foula, Shetland, Pottery from,	15
Fraser, John, presented Figsarine Needle and other Objects,	15
Frendraught of that ilk, Arms of,	429
Frost, John Maurice, elected,	2
Gair, G. Robert, elected,	2
Gallbraith, Dr J. J., presented Cast of a Sculptured Slab from Nonikiln Kirk-yard, Ross-shire,	11

	PAGE		PAGE
Harp, Lady John Scott's, (donation) . . .	174	Herjolfsness, Greenland, Cross at, . . .	373, 377
Harpoon, or Fish-spear, Bone, from Foshigarry, . . .	333, 353	— — — Norse burials at, . . .	373
Harray, Orkney, Flsgarine Needle from, . .	15	Highland Roads and Bridges Commission, Buttons of, . . .	10
— — — Broch of, Bronze Spear-butt from, .	114	Hill of Heddle, Orkney, Ground Flint Implement from, . . .	84
— — — Hematite, burnished, from, . . .	90, 108	Hill of Oraquoy, Firth, Orkney, Stone Hammer from, . . .	95
Harris, Hematite, burnished, from, . . .	90	Hillhead, St Ola, Orkney, Carved Stone Ball from, . . .	108
Harrison, Geo. & Co., presented St Kilda Tweed, . . .	14	Hinderafold Hill, Harray, Orkney, Flint Arrow-heads from, . . .	20
Hearth in the Sculptor's Cave, Covesea, . .	181	Hinge, Bronze, from Tents Muir, (purchase)	259
— at Skara Brae, . . .	50, 52	Hoes: <i>see</i> Bone; Deer-horn.	
Hematite, Beaked Tool of, from Skara Brae, . . .	62	Holyrood, Canons of, Romanno Lands held by, . . .	307
Objects, burnished, found in Scotland, List of, . . .	99, 108	Home, Earl of, presented Urns from Lintlaw, . . .	383
— — — from Bookan, Orkney, (donation)	12	Hone from Duu Thomaldh, . . .	321
— — — from Skara Brae, . . .	42	Hook-like Object, Bronze, from the Sculptor's Cave, Covesea, . . .	101
Heraldry:—		Horn, Hunting, Spurs and, of Wat o' Harden, Deed of Trust regarding, and Account of, . . .	408
Arms of:—		— Objects of: <i>see</i> Snuff-mull.	
Aberchirder, . . .	429 f.	Hornpipes, Jigs (Jiggs), and Reels, in An Old Scottish Violin Tutor, . . .	403 f.
Abernethy at Edzell Castle, . . .	137	Howe, Evie, Orkney, Carved Wooden Box from, . . .	104
Buchan on Steel Seal, from Aberdeen, .	175	Howmae, Orkney, Earth-house at, . . .	112
Crawford on Bannatyne Mazer, . . .	232 f., 238, 242	Human Remains:—	
Douglas on Bannatyne Mazer, . . .	232 f., 238 f.	at Evie, Orkney, . . .	9
FitzGilbert, Walter, of Hamilton, on Bannatyne Mazer, . . .	232 f., 238, 243	„ Lintlaw, Berwickshire, . . .	359, 362
Forbes at Edzell Castle, . . .	137	from the Sculptor's Cave, Covesea, . .	207
Frendraught of that Ilk, . . .	429	„ Skara Brae, Report on, . . .	75
Gordon, . . .	429	In Drumelzier Cairn, Report on, . . .	370
Hamilton, Duke of, . . .	243	Cremated, from Cinerary Urn found near Cowdenbeath, . . .	265
Huntly, House of, . . .	429	Report on, . . .	268
Innes, Alexander, 13th of that Ilk, . . .	430	Reports on Skeletal Remains from Short Cists at Knockenny, Angus, and Carnach, Nairn, . . .	421
— Sir Henry, younger of that Ilk, . . .	429	Hume, David R. Milne, exhibited a Stone Mould, . . .	410
— impaling Elphinstone, on Tombstone of Robert Innes, 19th of that Ilk, at Elgin Cathedral, . . .	428 f.	— Lt.-Col. Edgar Erskine, elected, . . .	3
Lindsay on Carved Fragments at Edzell Castle, . . .	169 f.	Hume, Berwickshire, Cresset from, . .	14
— of Glenesk, at Edzell Castle, . . .	137	Hunterian Museum, Glasgow, Potters' Stamps in, . . .	433
Menteith on Bannatyne Mazer, . . .	232 f., 238, 241	Huntly, House of, Arms of, . . .	429
— Sir John, on Seal (1343), . . .	241	Huts, ruined, at Skara Brae, 32, 34 f., 39, 41 f., 56 f.	
— of Rusky and Carse, . . .	241		
Robertsons (Perthshire), . . .	429	Inchmahome, Lake of Menteith, Perthshire, Effigy of Knight at, . . .	242
Spalding of Glenkilry on the Spalding Banner, . . .	383		
Stewart on Bannatyne Mazer, . . .	232 f., 238 f.		
Swinton, . . .	429		
Wishart, now at Edzell Castle, . . .	170		
Occurrence of <i>Bend chequy</i> alone, . . .	241		
of the Boss of the Bannatyne Mazer, . .	231 f., 237		
Heriot, Willok, . . .	217		

	PAGE		PAGE
Innes, Alexander, 13th of that Ilk, Arms of,	430	Jasper, Plate of, from Bernera, Sound of	
— 18th of that Ilk, and 3rd of Cromey,	430	Harris, (purchase)	176
— Berowald,	431	— Scraper of, found near Gullane,	9
— Elizabeth Elphinstone or,	428, 430 f.	Jet, Objects of: <i>see</i> Armlets; Beads;	
— Lady Grizel Stewart or,	431	Buttons; Necklaces.	
— Sir Henry, younger of that Ilk, Arms of,	429	Jigs (Jiggs), Reels, and Hornpipes, in An	
— Robert, 19th of that Ilk,	430	Old Scottish Violin Tutor,	403 f.
— Note on the Tombstone of, at Elgin		John, the son of Gilbert,	241
Cathedral,	427	Jones, Donald Herbert, elected,	298
— of Innermarkie,	427, 430	Jug found beside the Lady's Drive near	
— Sir Robert, 20th of that Ilk,	428, 431	Lerwick, (purchase)	175
— Thomas, On the Tombstone of Robert		Jupiter, Sculptured figure of, at Edzell	
Innes, 19th of that Ilk, at Elgin		Castle,	141
Cathedral,	427	Justitia, Sculptured figure of, at Edzell	
Innocent III., Lead Bulla of Pope,	16	Castle,	148, 100
Inscription:—			
on the Bannatyne Mazer,	224	Keel (Raddle) from Buckquoy, Birsay,	
„ Cross-slab at Herjofsness, Greenland,	373	Orkney, (donation)	15
„ Kilchoman Cross,	20	Keiss Broch, Caithness, Bone Hammer	
„ Silver Flask from Traprain Law,	386	from,	96
Latin, on a Memorial Stone in Clydai		Keith, Sir Arthur, Reports on the Bones	
Church,	386	from Cowdenbeath,	268
Insurance Company, Caledonian, Fire-plate		Kennedy, Peter, elected,	3
of, from Priorwood, Melrose,	412	Kernode, P. M. C., on Early Cross-slabs	
Inverarity, Mrs M. E., presented Lady		from the Faeroe Islands,	373
John Scott's Harp,	174	Kettleburn, Broch of, Caithness, Bronze	
Inveresk, Midlothian, Polisher, white		Tweezers from,	114
quartz pebble, from,	10	— — Stone Pot-lids from,	168
Inverness-shire: <i>see</i> Bae Mhic Connain,		Key, Bronze, Bolt and, from the Sculptor's	
North Uist; Bernera, Sound of Har-		Cave, Coresea,	192
ris; Cantray, Croy; Dun Thomaidd;		Keyser, Charles E., Death of,	4
Dun Troddan, Glenelg; Eilean Tigh		Kilchoman, Islay, Cross from,	19
na Slige, Loch Treig; Foshigarry,		Kilmacollm (Kilmacollmoe), Renfrewshire,	
North Uist; Glenelg; Harris; Kraik-		Lands of,	249
nish, Loch Eynort, Skye; Port nan		Kilns at Foshigarry,	306, 316
Long, North Uist; Rodil, Harris;		Kineraigle, Mill of, Coull, Aberdeenshire,	
Tota Dunaig, North Uist; Vallay,		Wooden Lock from,	382
North Uist.		Kindrochat, near Comrie, Perthshire, The	
Iron:—		Chambered Long Cairn at,	281
Absence of Objects of, in Brochs and		Kintore, Earl of, Death of,	4
Earth-houses,	114	Kirbister, Birsay, Orkney, Bronze Pins	
Fragment of, from Drumelzier Cairn,		from,	15
365, 367, 371		Kirk, Dr Robert, elected,	3
— Wedge-shaped, from Cist at Lintlaw,		Kirkeolm, Wigtownshire, Hematite, burn-	
Berwickshire,	360	ished, from,	90
Objects of: <i>see</i> Cake-toaster; Knives;		Kirkcudbright, Stewartry of: <i>see</i> Arkland,	
Nails; Rivets; Staple.		Kirkpatrick-Durham; Carsphairn;	
Ironmongers, Mazer of the Worshipful		Craigshinnie, Kells; Culshan, Kirk-	
Company of, London,	226	patrik-Durham; Milton, Urr;	
Irvine, Alexander, of Drum,	428	Piper's Croft, Kirkpatrick-Durham;	
— Peter, presented Flint and Stone Im-		Torkatrine, Kirkgunzeon.	
plements, etc., from Bookan,	11	Kirkjubö, Faeroe Islands, Cross-slab from,	
Islay: <i>see</i> Balulva; Banaltrum Mhor;			374, 376
Gruinart.			

	PAGE
Kirkjubō, Faeroe Islands, Seat of Bishopric,	376
— Cathedral, Unfinished, at,	376
Kirkmahoe, Dumfriesshire, Outlass from,	14
Kitchen-midden near Gruinart, Islay, Glass	
Bead and other Objects found near,	9
— near Tain, Point of a Bone Pin and	
other Relics from,	10
Knapdale, Sir John Menteith, Lord of	
Arran, Skipness, and,	241
Knives:—	
Bronze, socketed, Part of, from Alness,	
Ross-shire, (donation)	10
Flint:—	
from Alrhouse, Channelkirk, (donation)	174
„ Bookan, Orkney, (donation)	11
„ Carsie, Blairgowrie, (purchase).	259
„ Crichton House Farm, Ford,	
(purchase)	175
„ Findhorn, (purchase)	259
„ Hill of Orphir, Orkney, (donation)	9
„ the Sculptor's Cave, Covesea,	191
„ Sourin Valley, Rousay, Orkney,	
„	82
Iron, from Foshigarry,	326
Stone, from Skara Brae,	52, 63
Knock Hills, Edgerston, Flint Implements,	
Jet Objects and Urn Fragments from	
Cairns on,	13
Knockenny, Glamis, Angus, Cist, Food-	
vessel, and Jet Necklace found at,	419
Report on Skeletal Remains from,	421
Kraiknish, Loch Eynort, Skye, two Beakers	
from Cairn at,	256
Lacaille, A. D., on a Bronze Age Cemetery	
near Cowdenbeath, Fife,	261
— presented an Arrow-head from	
France,	256
Lamaness, Sanday, Orkney, Stone Hammer	
from,	91
Lamps: see Stone.	
Lanarkshire: see Airdrie; Bishop Loch;	
Dunsyre.	
Land Movements at Dun Thomaith,	356
— at Foshigarry,	354
Largie, Nether, Poltalloch, Argyll, Excava-	
tion of Cairn at,	269
Laurie, William Campbell, elected,	382
Lawson, W. B., elected,	3
Lead, Discs, pierced, from the Sculptor's	
Cave, Covesea,	201

	PAGE
Lead, Objects of: see also Bulla, Papal:	
Buttons; Whorls.	
Lees, David, elected,	3
Lerwick, Shetland, Jug found near,	175
Leslie, George,	379
— John,	379
— Thomas,	379
Lewis, Ross-shire, Distaff, Weighing Beam,	
etc., from,	10
Leyland, Sanday, Orkney, Steatite Object	
from Cist at,	11
Lile, Sir Alan de,	246
Lillie, A. Russell, and W. N. Ross presented	
Fragment of Food-vessel from Edder-	
ton,	258
Limpet Shells from Dun Thomaith,	321
— from Foshigarry,	309, 315
Lindean, Roxburghshire, Pigmy Imple-	
ments, etc., found at,	417
Lindsay of Glenesk, Arms of, at Edzell	
Castle,	137
— Sir Alexander,	118
— David, of Edzell,	118
— Sir David, of Crawford,	137
— Sir David, Lord Edzell: see Edzell.	
— Sir John, of Edzell, Arms of, at Edzell	
Castle,	109 f.
— (Lindesay), Sir William of, Chamber-	
lain of Scotland,	249
— Sir William de, Rector of the Church	
of Ayr,	250
Lingrow, Orkney, Pottery, encrusted, from	
Broch of,	110
Linlithgow, West Lothian, Stone Mould	
from,	412
Lintlaw, Berwickshire, Note on two	
Cinerary Urns found at,	359
Lochlee, Ayrshire, Stone Axe from Crannog	
at,	104
Lock, Wooden, from Mill of Kincaigie,	
Coull, (donation)	382
Locket: see Gold Locket.	
London, Burnt Samian Ware from,	15
Low, Professor Alex., Report on the Human	
Bones from the Sculptor's Cave,	
Covesea, by,	207
— Report on Skeletal Remains from	
Short Cists at Knockenny, Angus,	
and Carnoch, Nairn, by,	421
Luckenbooth Brooch, Gold, (purchase)	259
Luna, Sculptured figure of, at Edzell	
Castle,	145, 158
Lynchets, Formation of,	394
Lyon, David,	379

	PAGE		PAGE
Mabey, Arthur James, elected,	3	Mather, James, presented section of Hair Rope from St Kilda,	208
M'Cargo, James, presented Arrow-head and Stone Objects,	12	Mazer, The Bannatyne or Bute, and its Carved Bone Cover,	217
MacColl, Hugh Geoffrey, elected,	3	1. The Wooden Bowl,	221
— William D., elected,	8	2. The Mazer-band,	224
M'Cormick, Sir William S., Death of,	4	3. The Straps,	227
Macdonald, Dr Coll R., Death of,	4	4. The Foot of the Mazer,	229
— Sir George, on Names of Potters on Samian Ware found in Scotland,	432	5. The Boss and its Ornamentation,	229
— Mrs K. L., presented a Distaff and other Objects,	10	6. The Cover: its Material and Orna- mentation,	233
MacDougall of MacDougall, Colonel A. J., presented a Flooring Board from Dunollie House,	412	7. The Heraldry of the Boss, and its Testimony to the Date of the Vessel,	237
— — a Homespun Blanket,	383	8. The Theory that the Mazer was made for John (?) FitzGilbert, or Gilbertson, Keeper of Rothesay Castle,	244
M'Gibbon, William, Fiddler,	399	Appendix,	251
M'Glashan, "King," Fiddler,	399	Mazers:—	
MacGregor, Chief of, former owner of the Bannatyne Mazer,	220	of Epworth Church, Lincolnshire,	228
MacIntyre, Captain A. C., presented a Flint Axe from Balulve,	9	The Galloway,	226
Mackenzie, James, family of, presented a Cutlass,	14	„ Rochester,	226
— Thomas, elected,	208	of the Company of Armourers and Braziers, London,	227
— Dr W. Mackay, presented Shaped Piece of Wood from a Craunog,	14	„ „ Company of Ironmongers, Lon- don,	229
MacKillop, Rev. Allan MacDonald, elected, . .	3	„ „ Rev. H. F. St John,	227
Mackinnon, Donald S., elected,	382	„ „ Venerable Bede, at Durham,	227
Mackintosh, "Red Bob," Fiddler,	399	Mazer-bowl of York Minster,	222
M'Lean, Dr William, of Dingwall, Archaeo- logical Collections of, (presented)	411	Mazer Cup in the Franks' Collection, British Museum,	227
— Mrs, presented Archaeological Col- lections of the late Dr William M'Lean, Dingwall,	411	— — of Saint Thomas of Canterbury,	226
MacLeod of Bernera, former owner of the Bannatyne Mazer,	221	Mazere Wood,	221
— of MacLeod, Sir Reginald, presented two Beakers from Kralknish,	250	Medal, Bronze, commemorating the Naval Review at Spithead, 1902,	382
— Murdo, elected,	382	Medals: <i>see</i> Silver Medals.	
Machrihanish, Argyll, Hematite, burnished, from,	99	Menteith, Arms of, on Bannatyne Mazer, 232. f, 238, 241	
Magnentius, Coins of, from the Sculptor's Cave, Coveasa,	212, 213	— of Rusky and Carse,	241
Mainland, Orkney, Antiquities from,	79, 94	— John of,	241
Man, Prehistoric, at Tweed Bridge, Selkirk, .	414	— Sir John of (1320),	250
Maple Wood used for making Mazers,	221 f.	— — Lord of Arran, Skipness, and Knapdale,	241
Marches, Airs and, in An Old Scottish Violin Tutor,	401	— — of Rusky and Skipness,	241
Mars, Sculptured figure of, at Edzell Castle, 141, 163		— — Seal of,	241
Marwick, Dr Hugh, presented a Steatite object,	11	Mercury, Sculptured figure of, at Edzell Castle,	141, 158
Mason, W. D., on Prehistoric Man at Tweed Bridge, Selkirk,	414	Middleton, The Misses, presented a Wooden Lock,	382
		Midhouse, Orkney, An Underground Build- ing at,	357
		Mid-howe, Broch of, at Westness, Stone Axe found near,	14
		Midlothian: <i>see</i> Crichton House Farm, Ford; Duddingston; Inveresk.	

	PAGE		PAGE
Mill Cottage, Broadhouse, Orkney, Ground		Necker, David de,	157, 163
Flint Implement from,	84	Necklace, Jet, from Knockenny, Glamsis, . .	419
Miller, David M'Roberts, elected,	3	— — — from Pitkenney, Aberlemno, . .	
— George A., Death of,	4	Angus, (purchase)	16
Milton, Urr, Kirkcudbright, Whorl from, .	12	Needles :—	
Milton Brodie, Alves, Morayshire, Flint		Bone :—	
Arrow-head from,	259	from Bernera, Sound of Harris,	
Minuets in An Old Scottish Violin Tutor,	401, 403	(purchase)	176
Mitchell, A. G. Sydney, Death of,	4	„ Foshigarry	334
Moray, Earl of, Death of,	4	„ the Sculptor's Cave, Covesea, 186, 198	
— Sir Thomas of Ranulph, Earl of,	249	— Flisgarine, from Harray, Orkney,	
Morayshire: see Ardkelling, Strypes;		(donation)	15
Covesea; Culbin Sands; Elgin; Find-		— Netting, from the Sculptor's Cave,	
horn; Milton Brodie, Alves.		Covesea,	184
More, Henry,	379 f.	Bronze, from Dun Thomadh,	321
Mortars: see Bone, Cetacean; Stone.		— from the Sculptor's Cave, Covesea,	197, 209
Mortillet, Monsieur Adrien de, elected an		Neill, R. M., reports on the Animal Bones	
Honorary Fellow,	174	from the Sculptor's Cave, Covesea, .	207
Motte of Edzell,	119	Nether Largie, Poltalloch, Argyll, Cup-	
Moulds, Stone:—		marks on rock at,	275
from Buston Crannog,	411	Newlands, Garvald, East Lothian, Flint	
„ Evertown, Loophill, Canonbie,		Implements from,	16
(exhibited)	410	Nicol, W. J. W., of Netherurd, presented a	
„ Linlithgow, (donation)	412	Beaker, Fragments of Urns, and other	
„ Stannock, Whithorn,	411	Objects from Drumelzier Cairn,	383
Mounds at Drumelzier,	371	Nonikiln, Rosskeen, Ross-shire, Cast of	
Mozeen-Hudson, Cyril, elected,	256	Sculptured Slab formerly in Kirkyard	
Murchie, James, Death of,	4	of,	11
Murray, Agnes, of Elibank,	409	Norderey, Faeroe Islands, Cross-slab from	
— Col. The Hon. Arthur C., Deed of		Svinö Church,	378
Trust regarding the Wat o' Harden		Norse Burials at Herjolfsness, Greenland, .	373
Spurs and Horn, and Letter giving		North Gyle, Corstorphine, Edinburgh, Food-	
Account of them, by,	408	vessel from,	258
— Sir Gideon, of Elibank,	409	Nut, Hazel, charred, from Cist in Drum-	
— Joseph H., elected,	408	elzier Cairn,	367
— Patrick, Death of,	4, 5	Nut-crackers, Carved wooden, (donation) .	382
Museum, Dollar Park, Falkirk, Potters'		Ochiltree, Ayrshire, Covenanters' Flag from,	13
Stamps in,	433	Ochre found in Cist in Cairn at Carnassarie,	
— Hunterian, Glasgow, do., do.,	433	Kilmartin,	277
Music, Scottish: see An Old Scottish		— — — at Nether Largie, Poltalloch, . .	271
Violin Tutor.		Oliphant, Walter, elected,	174
Musica, Sculptured figure of, at Edzell		Oliver, Mrs F. S., presented Flint Imple-	
Castle,	146, 160	ments and other Objects,	13
Nails, Iron, Old, from Airdrie, Lanark-		Orkney, Prehistoric Relics from,	78 f.
shire,	15	See also Aikerness, Broch of; Appie-	
— Wooden, in Coffins at Skuö, Faeroe		town, Sandwick; Bain, Quoyloo; Bir-	
Islands,	377	say; Bloody Quoy, Deerness; Blows	
Nail-cleaners, Bronze, from the Sculptor's		Moss, South Ronaldsay; Boekan, Sand-	
Cave, Covesea,	196	wick; Bookan; Buckquoy, Birsay;	
Nairnshire: see Carnach.		Burray, Broch of; Clestrain, Stron-	
Napier, Robert W., elected,	3	say; Crosskirk, Westray; Dykeside,	

	PAGE		PAGE
Harray; Eday; Egilsay; Evie; Fol-setter, Birsay; Grind, Tankerness; Harray; Hill of Heddle; Hill of Oratquoy, Firth; Hillhead, St Ola; Hinderajfold Hill, Harray; Howe, Evie; Howenfae; Kirbister, Birsay; Lamaness, Sanday; Leyland, Sanday; Lingrow, Broch of; Mainland; Midhouse; Midhowe, Westness; Mill Cottage, Boardhouse; Orphir, Hill of; Queena, Birsay; Quoyer, Stenness; Quoyness; Rennibister; St Thomas's Kirk, Rendall; Sandwick; Saverough, Birsay; Shapinsay; Skail; Skara Brae; Smog-roo; Sourin Valley, Rousay; Stenabreck; Stenness; Taiverso Tuick, Rousay; Tankerness; Unstan; Upper Brough, Harray; Upper Linnabreck, Birsay; Walls; Westness, Rousay; Westray; Whitehall, Stronsay; Wyre.		Perthshire: see Carsie, Blairgowrie; Inchmahome; Kindrochat, near Comrie; Ruthven Hill; Strathardle.	
Orphir, Orkney, Stone Hammer from, . . .	95	Peter, Alexander,	379
— Hill of, Orkney, Flint Knife from, . . .	9	Pickers' Well at Drumelzier,	372
Orpiment, Chips of, from the Sculptor's Cave, Covesea,	291	Picks, Bone, from Skara Brae,	37
Oven, Built, at Foshigarry,	316 f.	— Deer-horn, from Foshigarry,	338
Owen, Charles H., elected,	3	Pigments from Skara Brae and elsewhere, . . .	110
		Pigmy Implements from Lindean, Roxburghshire,	417
		— — from The Rink, Tweed Bridge, Selkirk,	415
		Pincers, Bronze, from the Sculptor's Cave, Covesea,	195
		Pin-heads, Cetacean Bone, from Foshigarry, . . .	339
		Pins:—	
		Bone:—	
		from Foshigarry,	303, 334
		„ a Kitchen-midden near Tain, (donation)	10
		„ the Sculptor's Cave, Covesea, 186, 197 with Amber Settings, from the Caird's Cave, Rosemarkie, (donation)	411
		or Borers, from Skara Brae,	29, 30, 37, 43, 52, 64
		Bronze:—	
		from Foshigarry,	326
		„ the Sculptor's Cave, Covesea,	194-6
		„ Tents Muir, (purchase)	259
		Enamelled, from Kirbister, Birsay, Orkney, (purchase)	15
Palmpol (Côtes-du-Nord), France, White Flint Arrow-head from,	256	Piper's Croft, Kirkpatrick-Durham, Whorl from, (donation)	12
Panel of Carved Wood bought in Edinburgh, (donation)	9	Pitchstone, worked, found near Urn at Cowdenbeath,	268
Pannure, Earl of,	118	Pitkenney, Aberlemno, Angus, Jet Neck-lace from,	16
— Earl, of Forth, William Maule,	119	Planetary Deities sculptured at Edzell Castle,	140
Park, Earliston, Berwickshire, Flint Implement from,	10	Plate, Bronze, from Foshigarry,	325
Parliament House Friendly Society, Snuff-mull of,	175	Polishers:—	
Passage, Underground, at Auchencass Castle,	294	Quartz Pebble, from Inveresk, (donation) . . .	10
Paton, Victor A. Noel, reference to Death of,	382	— — from Lindean,	417
Peeblesshire: see Drumelzier; Purves Hill; Romano; Smithfield Tower; Tor Hill; Venlaw; Walkerburn.		Stone, from Dun Thomaidh,	321
Pencz, Georg, Engraver, of Nuremberg,	162 f.	— „ Foshigarry,	323 f.
Pendants, Bronze, from the Sculptor's Cave, Covesea,	191	Poltalloch, Argyll, Excavations of Cairns at,	269
Periwinkle Shells:—		Port nan Long, North Uist, Pottery, encrusted, from,	110
from Dun Thomaidh,	321	Portsburgh, Easter: see Edinburgh.	
„ Foshigarry,	315	Pot-lids: see Stone.	
Perth, Merchant's Signet-ring from,	259	Pots:—	
		Clay, from Foshigarry,	309
		— „ Skara Brae,	37 f., 52, 66, 69

	PAGE
Potters, Names of, on Samian Ware found in Scotland,	432
Pottery, Native:—	
from Beosetter, Bressay, Shetland, (donation)	10
„ Dun Thomaidh,	321 f.
„ Foshigarry, 302, 303, 306, 312, 314, 342 f.	
„ Foula, Shetland, (donation)	15
„ Gruinart, Islay, (donation)	9
„ Skara Brae,	37, 47, 52, 65 f.
„ ——— and Hebridean Earth-houses,	110
„ the Sculptor's Cave, Covesea,	188-91
Disc of, from Foshigarry,	315
Neolithic, from Drumelzier Cairn,	305 f., 308
Roman, Samian, burnt, from London, (donation)	15
—— Names of Potters on, found in Scotland,	432
—— from the Sculptor's Cave, Covesea,	202, 209
<i>See also</i> Cooking-pot; Crucibles; Jug; Pots; Urns; Whorls.	
Pounders, Stone, from Dun Thomaidh,	321 f.
—— from Foshigarry,	314, 323
Prehistoric Relics from Orkney,	78
— Man at Tweed Bridge, Selkirk,	414
Prelleur, Peter, author of <i>The Music-Master</i> ,	400
Prickers, Bone, from the Sculptor's Cave, Covesea,	186
Priorwood, Melrose, Fire-plate of the Caledonian Insurance Company from,	412
Prudentia, Sculptured figure of, at Edzell Castle,	150, 161
Pumice from Dun Thomaidh,	321 f., 357
—— from Foshigarry,	315, 324, 350
Punchers, Bone, from the Sculptor's Cave, Covesea,	186
Purse, 17th Century, from Aldbar Castle, (purchase)	175
Purves Hill, Peeblesshire, Terraces at, 391 f., 397	
Quaich, Wooden, from Cairnfield, Enzie, Banffshire, (purchase)	175
Quarry for Standing Stones, probable, at Torbhàren Hill, Kilmichael Glas-sary,	290
Quartzite, Abraded Splinter of, found near Gruinart, Islay,	9
Queen, Birsay, Orkney, Flint Axe from,	84
Querns from Dun Thomaidh,	321
—— from Foshigarry,	302, 303, 325

	PAGE
Querns at Skara Brae,	113
Quoy, Stenness, Orkney, Ground Flint Implement from,	84
Quoyness, Orkney, Relics from Chambered Cairn at,	105, 106
Radcliffe, Bramley N., Death of,	4
Ranulph, Thomas,	249
Readman, John, presented Jet Bead and Flint Implement,	10
Red Deer at Skara Brae,	75
— Antler, worked, from the Sculptor's Cave, Covesea,	188
Reels, Hornpipes, and Jigs (Jiggs), in An Old Scottish Violin Tutor,	403 f.
Renfrewshire: <i>see</i> Kilmaccolm.	
Rennibister, Orkney, Bone Shovel from,	107
Review, Naval, at Spithead (1902), Bronze Medal commemorating,	382
Rhetorica, Sculptured figure of, at Edzell Castle,	146
Rhind Lectureship, 1930,	6
—— 1931,	7
Richardson, James S., presented Objects from Islay, Orkney, etc.,	9
—— presented Fragment of Stone Mould and other Objects,	412
— John, Musselburgh, presented Silver Medal of Canongate High School,	13
Ri Cruin, Argyll, Axe-heads Carved on Slabs of Cists at,	274
Rings:—	
Bone, from the Sculptor's Cave, Covesea,	198
Bronze, do., do.,	182, 191
— Penannular, do., do.,	191
Gold, found in Earth-house at Shapinsay,	359
Signet, Merchant's, from Perth, (purchase)	250
Stone, from Foshigarry,	324
Ring-marked Slab from Drumelzier Cairn,	305, 370
—— from Harelawside, Berwickshire,	370
—— „ Ruthven Hill, Perth,	370
Ring-money, Gold and Bronze, from the Sculptor's Cave, Covesea,	181
Ritchie, Professor James, on the Bone Carving of the Bannatyne Mazer,	253
Rivets, Iron, from Dun Thomaidh,	321
— Viking, from the Sculptor's Cave, Covesea,	202
Road Broch, Keiss, Caithness, thin Ground Bone Blades from,	109

	PAGE
Robertson, James M., elected,	3
Robertsons (Perthshire), Arms of,	420
Robinson, Professor A., reports on Human Remains from Skara Brae,	75
Rochester Mazer,	226
Rodil, Harris, Stone Adze from,	175
Rogerson, John, Death of,	4
Roman Coins from the Sculptor's Cave, Covesea,	200, 212
— Pottery: <i>see</i> Pottery.	
Romanno, Lands of, held by the Canons of Holyrood,	397
— Terraces, The: Their Origin and Purpose, being the Chalmers-Jervise Prize Essay for 1890,	388
Rope, Horses' Hair, from St Kilda, (donation)	298
Rosebrough Moor, Northumberland, Urn from,	361
Rosemarkie, Ross-shire, Collection of Stone, Bone, and Deer-horn Objects from the Caird's Cave at,	411
Ross, Lt.-Gen. Sir Charles, of Balnagowan,	380
— Dr Thomas, Obituary Notice of,	8
— W. N., and A. Russell Lillie, presented Fragment of Food-vessel from Edderton,	258
Ross-shire, <i>see</i> Alness; Black Isle; Dingwall; Edderton; Lewis; Nonikiln, Rosskeen; Rosemarkie; Tain.	
Rothsay Castle, Keeper of,	245 <i>f.</i>
Roxburghshire: <i>see</i> Denholm Hill; Harden; Knock Hills, Edgerston; Lindean; Priorwood, Melrose; St Boswells.	
Run-rig System of Cultivation,	394
Russell, Thomas, presented Banner of the Edinburgh Brushmakers,	383
Ruthven Hill, Perthshire, Ring-marked Slab from,	370
St Boswells, Roxburghshire, Lead Button found at, (purchase)	384
St John, Rev. H. F., Mazer which belonged to,	227
St Kilda, Section of Hair Rope from, (donation)	298
— Tweed, (donation)	14
St Thomas's Kirk, Orkney, Carved Stone Ball from,	16, 96, 108
Samian Ware found in Scotland, Names of Potters on,	432

	PAGE
Samian Ware found in the Sculptor's Cave, Covesea,	202
Sandwich, Orkney, Stone Axe-hammer from,	95
Saturn, Sculptured figure of, at Edzell Castle,	140, 158, 162
Saverough, Birsay, Orkney, Pottery and other Objects from,	106
Saw, Flint, from Crichton House Farm, Ford, (purchase)	175
— — — — from Dramelzier Cairn,	365 <i>f.</i>
— — — — — Donation of,	383
Searth, Henry W., elected,	3
Selater, Rev. Canon, presents Communion Tokens,	12
Scoops, Bone, from the Sculptor's Cave, Covesea,	186
Scott, Mrs Frances J., presented a Bronze Axe,	257
— Lady John, Harp which belonged to,	174
— Mary, of Dryhope,	409
— Walter, of Gouldielandis,	409
— — — — of Harden,	408 <i>f.</i>
— Sir Walter, Silver Vessel used by,	16
— William, of Harden,	409
— W. Lindsay, elected,	382
Scrapers:—	
Chert, from Bookan, Sandwick, Orkney,	11, 86
— and Flint, from Skara Brae, Orkney,	30, 85, 104
Flint:—	
from Banaltrum Mhor, Islay, (donation)	9
„ Bookan, Orkney, (donation)	11
„ Carsie, Blairgowrie,	250
„ Crichton House Farm, Ford, (purchase)	175
„ Denholm Hill, Roxburgh, (purchase)	16
„ Evie, Orkney, (donation)	9
„ Lindean,	417
„ Orkney,	82
„ the Sculptor's Cave, Covesea,	191
„ Skara Brae,	37, 42, 65
„ Tents Muir, (purchase)	259
„ Torphichen, West Lothian, (donation)	9
Jasper, found near Gullane, (donation)	9
Seals:—	
Family of Buchan, from Aberdeen, (purchase)	175
Sir David FitzWalter FitzGilbert,	243

	PAGE		PAGE
Seals (<i>contd.</i>):—		Skara Brae, Orkney (<i>contd.</i>):—	
Incorporation of Cordliners, Easter Ports-		— — — Final Report on Operations (<i>contd.</i>):—	
burgh, (purchase)	381	Conformation of the Village at	
Counterseal of Roger de Quincy, . . .	231	various periods,	52
Selkirk, Tweed Bridge, Prehistoric Man at,	414	Intrusive Burials south of Hut	
Semple or Sempill: <i>see</i> Symple.		7,	31, 58
Shapinsay, Orkney, Gold Ring found in		Relics found in 1930,	60
Earth-house at,	359	Age of Site,	71
Sharpening-stones from Foshigarry, . . .	324	— — — Grooved Stone from,	110
Shaw, R. Cunliffe, elected,	3	— — — Implements, Stone, peculiar, from,	104
Sheath, Bone, from the Sculptor's Cave,		— — — its Culture and its Period,	103 f.
Covesen,	198	— — — Pigments from,	110
Shells from Dun Thomaldh,	321	— — — Pottery from,	65, 110
— — — Foshigarry,	302, 309, 315	— — — Report on Animal Bones,	74
Shetland: <i>see</i> Beawick, Sandsting; Beo-		— — — " " Human Remains,	75
setter, Bressay; Foula; Lerwick;		— — — Scrapers, Chert and Flint, from, . . .	104
Yarlshof,	226	— — — Shovels, Bone, from,	108
Shirley Bowl,	226	— — — Stone Pot-lids from,	108
Signet-ring: <i>see</i> Ring, Signet.		— — — Thin Ground Bone Blades from, . . .	109
Silver Medal of Canongate High School,		— — — Whetstone from,	114
(donation),	13	Skene of Skene, Family of,	429
— — — of Duddingston Curling Society,		Skipness and Knapdale, Sir John Men-	
(donation),	14	teith, Lord of Arran,	241
— Vessel used by Sir Walter Scott as a		Skuō, Faeroe Islands, Cross-slabs from, .	373 f.
child, (purchase)	10	Skye, Isle of: <i>see</i> Kraikulsh.	
— Objects of: <i>see</i> Bowls; Flagon; Flask;		Slabs, Cetacean Bone, V-cut, from Foshi-	
Ring, Signet; Tag.		garry,	303, 306, 308 f.
Simpson, Miss Margaret E. Barbour,		— of Cists, Carved, in North Cairn,	
elected,	3	Nether Largie, Poltalloch,	271, 273
— — — presented Stone Axe,	15	— — — Grooved, at the Lady's Cist, Pol-	
— Dr W. Douglas, on Edzell Castle, . . .	115	talloch,	274
— — — presented a Button of Benachie		— Sepulchral, from Greenland,	373, 376
Club,	256	Slag, Iron, from Foshigarry,	326
— W. N., elected,	382	Slate, Piece of Incised, from Foshigarry, .	313
Sinkers, Stone, from The Rink, Tweed		Slice, Bone, from the Sculptor's Cave,	
Bridge,	416	Covesen,	185, 187
Sinks at Foshigarry,	306, 308, 310, 312, 356	Smith, Colin, elected,	298
Skaill Collection of Antiquities,	78 f.	— John, elected,	3
Skara Brae, Orkney, Axes, Flint and Stone,		— John, Collection of Flint and Stone	
from,	37, 84, 104	Implements, etc., of the late, (pre-	
— — — Carved Stone Balls from,	108	sented)	298
— — — Dorsal Plate of Cetacean Bone		— Professor W. Wright, Note on the	
from,	110	Plants in the Carving of the Cover of	
— — — Final Report on Operations at, . . .	27	the Bannatyne Mazer,	254
Areas South and West of the		Smithfield Tower, Venlaw, Peeblesshire, .	397
Market Place,	27	Smogroo, Orkney, Flint Axe from,	84
East End of Passage A,	39	Snuff-mull, Horn, of Parliament House	
End of Passage F,	31	Friendly Society, (purchase)	175
Midden East of Passage C and		Sockets for Stone Axes: <i>see</i> Deer-horn.	
South of Hut 5,	32	Socket-stones from Dun Thomaldh,	321
Huts 9 and 10,	34	— — — from Foshigarry,	303, 313, 324
Hut 4 and Connected Buildings, . . .	40	Sol, Sculptured figure of, at Edzell Castle, .	141
Drains,	44	Sorrowlessfield, Earliston, Berwickshire,	
The Deep Midden,	47	Jet Bead from,	10

	PAGE		PAGE
Sourin Valley, Rousay, Orkney, Flint		Stirlingshire: <i>see</i> Falkirk.	
Knife from,	82	Stone Circle, Cartomie Wood, Edderton,	
Spalding, Andrew, of Glenkilry,	383	Food-vessel from Cist in,	258
— Banner, (donation)	382	Stone:—	
— Miss Flora, bequeathed the Spalding		Flattened Spheroidal, from Foshigarry, .	324
Banner,	382	Grooved, from Skara Brae and Birkle	
Spear-butt, Bronze, from Broch of Harray,		Hills, Keiss, Caithness,	110
Orkney,	114	Implements from Chambered Cairn at	
Spear-heads, Bone, from Foshigarry, . .	333	Quoyness, Orkney,	104
— Flint, from Carsie, Blairgowrie, (pur-		— in The John Smith Collection, (dona-	
chase)	259	tion)	298
Sperm Whale, Cover of the Bannatyne		— Pear-shaped, from Skara Brae, . . .	62
Mazer made from Jaw of,	233	Lamps from Brochs,	110
Spea, Sculptured figure of, at Edzell Castle,		Mortars from Skara Brae, and Brochs, .	110
148, 161		Ornamented, from Orkney,	97
Spinning Wheel from Lewis, (donation) .	10	Oval Discoidal, from Foshigarry, . . .	324
Spiral on Pottery from Skara Brae, . . .	68	Pebbles, Split and Polished, from	
Spithead, Naval Review (1902) at, Bronze		Lindean,	417
Medal commemorating,	382	Perforated, from Arkland, Kirkpatrick-	
Spoon, Bone, from the Sculptor's Cave,		Durham, (donation)	12
Covesea,	198	— from Carsphairn, (donation) . . .	12
Spurs and Hunting Horn of Wat o' Harden,		— „ Denholm Hill, Roxburgh, (pur-	
Deed of Trust regarding, and Account		chased)	16
of,	408	— „ the Sculptor's Cave, Covesea, .	191
Standing Stones near Carnassarie, Kil-		— „ Tents Muir, (purchase)	259
martin,	275	Pointed Oval from Orkney,	98
— — — — — probable Quarry for, at Torbhla-		Pot-lids from Brochs and Earth-houses,	
ren Hill, Kilmichael Glassary,	280	Relics from the Caird's Cave, Rose-	
Stannock, Whithorn, Wigtownshire, Stone		markie, (presented)	411
Mould from,	411	Slab, Serrated, from Skara Brae, . . .	42, 61
Staple, Iron, part of, from Dunnadd, . .	412	Slate, Piece of Incised, from Foshigarry,	
Steatite, Objects of, from Cist at Leyland,		Spiked Object from Skara Brae,	63
Sanday, Orkney, (donation)	11	Square Plate of Jasper from Bernera,	
<i>See</i> Urns.		Sound of Harris,	176
Steel, Objects of: <i>see</i> Seal.		Squared pieces of Mica-schist from Foshi-	
Stenabreck, Orkney, Earth-house at, . .	110	garry,	325
Stemness, Orkney, Carved Stone Ball from,	108	Vessels of, from Skara Brae and Brochs,	
Stenart, Rev. Frederick A., Death of, . .	4	110	
Stevens, C. E., elected,	3	<i>See also</i> Adze; Anchor; Axes; Axe-	
Stevenson, J. H., on the Bannatyne or Bute		hammer; Balls; Bead; Chert; Club;	
Mazer and its Carved Bone Cover, . . .	217	Files; Hammer; Hammer-stones;	
Stevenson, Ayrshire, Cinerary Urns sealed		Hone; Jasper; Jet; Moulds; Pitch-	
with Clay at,	265	stone; Polishers; Pounders; Querns;	
Steward, High, of Scotland, Robert, . .	239	Ring; Sharpening-stones; Sinkers;	
— — — — — Walter,	269	Socket-stones; Steatite; Strike-a-	
Stewart, Arms of, on Bannatyne Mazer,		Lights; Sundial; Whetstones; Whorls.	
232 f., 238 f.		Stones, Sculptured or Incised:—	
Stewart, Lady Grizel: <i>see</i> Innes.		Axe-heads and Cup-marks carved in	
— James,	219	Cists in North Cairn, Nether Largie,	
— Norman, elected,	3	Poltalloch,	271
Stirling, Catherine, of Glenesk,	118	at Edzell Castle, Planetary Deities, .	140-5
— (Strevylyn), John de, lord of Cars of		— — — — — The Liberal Arts,	145-8
Stirling,	241	— — — — — The Cardinal Virtues,	148-51
— — — — — Marjory, of Cars of Stirling, . .	241	— — — — — The Significance of the Sculp-	
		tures and their <i>Provenance</i> ,	151

INDEX.

469

	PAGE		PAGE
Stones, Sculptured or Incised (<i>contd.</i>):—		Tine, Red-deer, shaped, from Dun	
at Edzell Castle, Carved Fragments, . . .	109	Thomaidh,	321 f.
Ring-marked Slab, from Drumelzier		Toggle, Bronze, from Tents Muir, (purchase)	259
Cairn,	305, 370	Toilet Instruments, Bronze, from the	
— from Harelawside, near Grant's		Sculptor's Cave, Coveasa,	
House,	370	Tokens, Communion, of Ballachulish	
— from Ruthven Hill, Perth, . . .	370	Episcopal Church,	12
Slab, formerly in Nonikiln Kirkyard,		Tombstone of Robert Innes, 10th of that	
Rosskeen, Cast of, (donation) . . .	11	Ilk, at Elgin Cathedral, Note on the, . .	427
<i>See Effigy.</i>		Torbhlaren Hill, Kilnichael Glassary,	
Strathardle, Perthshire, Flint Arrow-		Argyll, Quarry for Standing Stones at,	280
heads from,	259	Tor Hill, Peeblesshire, Terraces at, . .	394
Strichen, Aberdeenshire, Stone Hammer		Torkatrine, Kirkgunzeon, Whorl from, . .	12
and Cinerary Urn found at,	94	Torphichen, West Lothian, Flint Scraper	
Strike-a-Lights from Foshigarry, . . .	324, 350	from,	9
Sudreys, Sir Alan, Bishop of the, . . .	250	Tota Dunaig, North Uist, Stone Axe from,	104
Summer-house at Edzell Castle,	164	Towel, Home-spun Linen, from Lewis,	
Sundial from Cantray, Croy, Inverness-		(donation)	10
shire, (donation)	383	Tower, Smithfield, formerly at Venlaw,	
Swann, Miss Emma, Death of,	3	Peebles,	397
Swinton, Arms of,	429	Traprain Law, East Lothian, absence of	
Sword Guard, Bronze, from the Sculptor's		Stone Pot-lids in Fort on,	109
Cave, Coveasa,	193	— — — Treasure, Some Further Notes on	
Symple, Sir Robert,	259	the,	386
		— — — Hematite, burnished, from, . . .	99, 108
		— — — Pottery, encrusted, from,	110
		Treasure, Traprain Law, Some Further	
		Notes on the,	386
		Trust Deed: <i>see</i> Deed.	
Tag, Silver, from Traprain Law,	387	Tumbler from Skara Brae,	52
Tain, Ross-shire, Point of a Bone Pin from		Tunes, Scots, in An Old Scottish Violin	
a Kitchen-midden near,	10	Tutor,	402
Taiverso Tulick, Rousay, Orkney, Neolithic		Tutor, An Old Scottish Violin,	308
Pottery from,	14	Tweed from St Kilda, (donation)	14
Tankerness, Orkney, Stone Hammer from,	91	Tweed Bridge, Selkirk, Prehistoric Man at,	414
Tardenoisian Site at Tweed Bridge, Selkirk,	414	Tweezers, Bronze, from Broch of Kettle-	
Tarrant, Charles,	379 f.	burn, Caithness,	114
Tawse, William, presented Buttons of the			
Highland Roads and Bridges Com-		Uist, North, Inverness-shire: <i>see</i> Dun	
mission,	10	Thomaidh; Foshigarry; Vallay.	
Taylor, Charles Henry, elected,	256	Umphray, Thomas, presented Pottery from	
— John, elected,	3	Foula, Shetland,	15
Temperantia, Sculptured figure of, at Edzell		Unstan, Orkney, Neolithic Pottery from, .	89
Castle,	150, 161	Upper Brough, Harray, Orkney, Flint Im-	
Tents Muir, Fife, Pigmy Flint, Scrapers,		plement from,	84
and other Objects from, (purchase) . .	259	— — — Hematite, burnished, from, . .	99
Terraces at Purves Hill,	391	— Linnabreck, Birsay, Orkney, Flint Im-	
— The Romano: Their Origin and Pur-		plement from,	84
pose,	388	Urns:—	
— and Forts, Connection of,	395	Beaker:—	
Thomas, Salut, of Canterbury, Mazer Cup of,	236	from Bell-Cairn, Ballymeanoch, . .	279
Thomson, James C., elected,	3	„ Cairn on Knock Hills, Edgers-	
— J. Miller, elected,	174	ton, Roxburghshire,	13
Thorneycroft, Wallace, elected,	3		
Tine, Deer-horn, cut, found at Foshigarry,	302, 338		
— — — worked, from Skara Brae,	37		

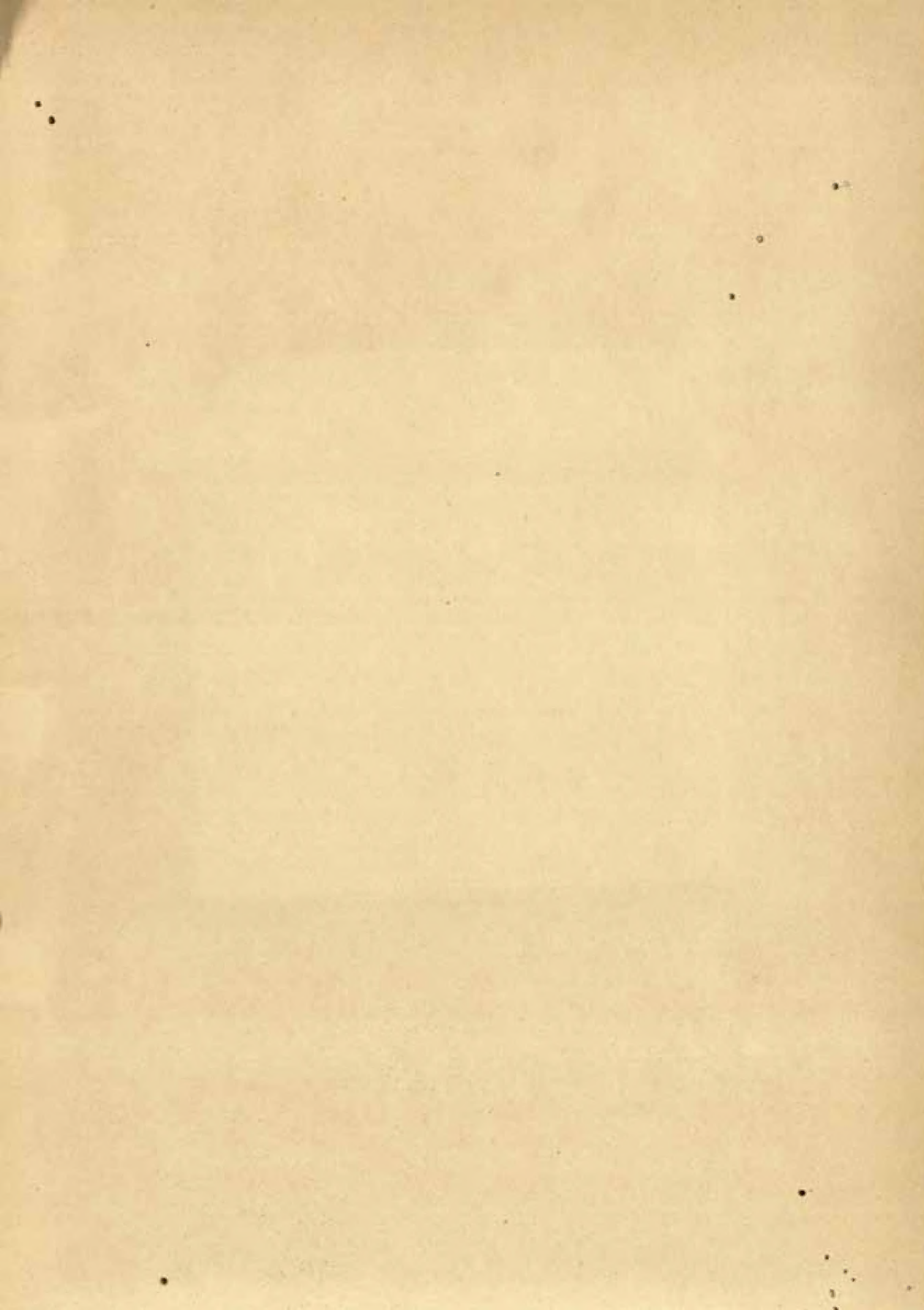
	PAGE		PAGE
Urns (<i>contd.</i>):—		Walls, Orkney, Steatite Urn from,	101
Beaker (<i>contd.</i>):—		Warrack, John, Representative of Board of Trustees on Council,	2
from Drumelzier Cairn,	365 f., 368	Warrand, Miss Constance, presented Buttons of the Culloden Volunteers,	258
do., do., (donation)	383	Warrick, Rev. John, presented Covenanters' Flag from Ochiltree,	13
„ Fletcherfield, Forfar,	418	Watson, Col. David,	379
„ K Falknish, Loch Eynort, Skye, (donation)	256	— Professor D. M. S., reports on Selected Animal Remains from Skara Brae,	74
Cinerary:—		Wat o' Harden, Spurs and Hunting Horn of,	408
from Cowdenbeath,	262 f.	Weaving Tablets, Bone, found in Scotland,	353
„ Drumelzier Cairn,	365, 367 f.	Weighing Beam from Lewis, (donation)	10
„ Lintlaw, Berwickshire, Note on,	359	Well, Picker's, at Drumelzier,	372
do., do., (donation)	383	West Lothian: <i>see</i> Linlithgow; Torphichen.	
„ Rosebrough Moor, Northumberland,	361	Westness, Rousay, Orkney, Broch of Midhowe,	112
found with Stone Hammer at Strichen, Aberdeenshire,	94	Westray, Orkney, Stone Hammer from,	91
Sealed with Clay,	265	Whale, Sperm, Cover of the Bannatyne Mazer made from Jaw of,	233
Food-vessel:—		Whalebone, Objects of: <i>see</i> Basin.	
from Carnassarie Cairn, Kilmartin,	277 f.	Whetstones:—	
„ Cartomie Wood, Edderton, (donation)	258	from Drumelzier Cairn,	365, 370
„ Knockenny, Glamis,	419 f.	do., do., (donation)	383
„ North Gyle, Corstorphine, (donation)	258	„ Foshigarry,	323
Neolithic, from Taiverso Tuick, Rousay, Orkney, (donation),	14, 86	„ Newlands, Garvald, East Lothian, (purchased)	16
— from Unstan, Orkney,	87	„ Skara Brae, Orkney,	114
Steatite, from Orkney,	101	Whitehall, Stronsay, Orkney, Stone Axehammer from,	95
— Viking type,	101, 102	Whitton, Edward, presented a Bronze Medal,	382
Vale, Thomas H., elected,	3	Whorls:—	
Vallay, North Ulst, Inverness-shire, Fragment of Bone Comb from,	256	Cetacean Bone, from Foshigarry,	331
Venlaw, Peeblesshire, Terraces at,	382 f., 397	Clay, from Foshigarry,	343
— — — Smithfield Tower at,	397	Lead, „ Denholm Hill, Roxburgh, (purchase),	16
Venus, Sculptured figure of, at Edzell Castle,	141	— from Tents Muir, (purchase)	259
Viking Iron Rivet from the Sculptor's Cave, Covesea,	202	Pottery, from Foshigarry,	343
— type of Steatite Urns,	101, 102	Stone:—	
Violin Tutor, An Old Scottish,	308	from Craigshinnie, Kells, Kirkcudbright,	12
Violinists, Scottish, Names of famous,	308 f.	„ Cullin Sands, (purchase)	259
Virtues, The Cardinal, Sculptured figures of, at Edzell Castle,	148, 160	„ Dalveen Pass, Dumfriesshire,	12
Volunteers, Culloden, Buttons of,	258	„ Foshigarry,	302, 306, 324
		„ Loch Doon,	12
		„ Milton, Urr, Kirkcudbright,	12
		„ Piper's Croft, Kirkpatrick-Durham,	12
		„ Tents Muir, (purchase)	259
		„ Torkatrine, Kirkgunzeon Kirkcudbright,	12
		Dated and Inscribed, from The Rink, Tweed Bridge,	416
Waddington, Quentin, presented Burnt Samian Ware from London,	15		
Walker, Thomas,	379 f.		
Walkerburn, Peeblesshire, Fortalice of,	307		
Walker-Love, Dr T., presented Hand-made Iron Nails,	15		

INDEX.

471

	PAGE		PAGE
Wigtownshire: <i>see</i> Airrieoulland; Corsewall Castle; Glenluce Sands; Kirkcolum; Stannock, Whithorn.		Wool Carders, made in Glasgow, (donation)	10
Williams, Rev. George, Death of,	4	— Winder from Lewis, (donation)	10
Wilson, Arthur, elected,	3	Wooler, Thomas of,	246
— James,	379	Wyre (Viera), Orkney, Handle of Cetacean Bone found near Cubbie Roo's Castle,	11
Wiseman, William, elected,	408		
Wishart, Arms of, on Stone now at Edzell Castle,	170	Yarlsbof, Shetland, Broch of,	112
Wood:—		York Minster Mazer-bowl,	222
Box, carved, from Howe, Evie, Orkney,	104	Younger, H. J., on An Underground Passage at Auchencass Castle, Dumfriesshire,	204
Carved Panel, bought in Edinburgh, (donation)	9	Yule, Thomas, elected a Vice-President,	1
Pieces of, from Skara Brae,	70		
Shaped, from Craunog on Eilean Tigh na Slige, Loch Treig,	14	Zahn, Professor Dr Robert, elected an Honorary Fellow,	174
<i>See also</i> Batons; Distaff; Flooring Board; Lock; Nails; Nut-crackers; Quaid.		Ziegler, Hans,	134, 158, 163







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